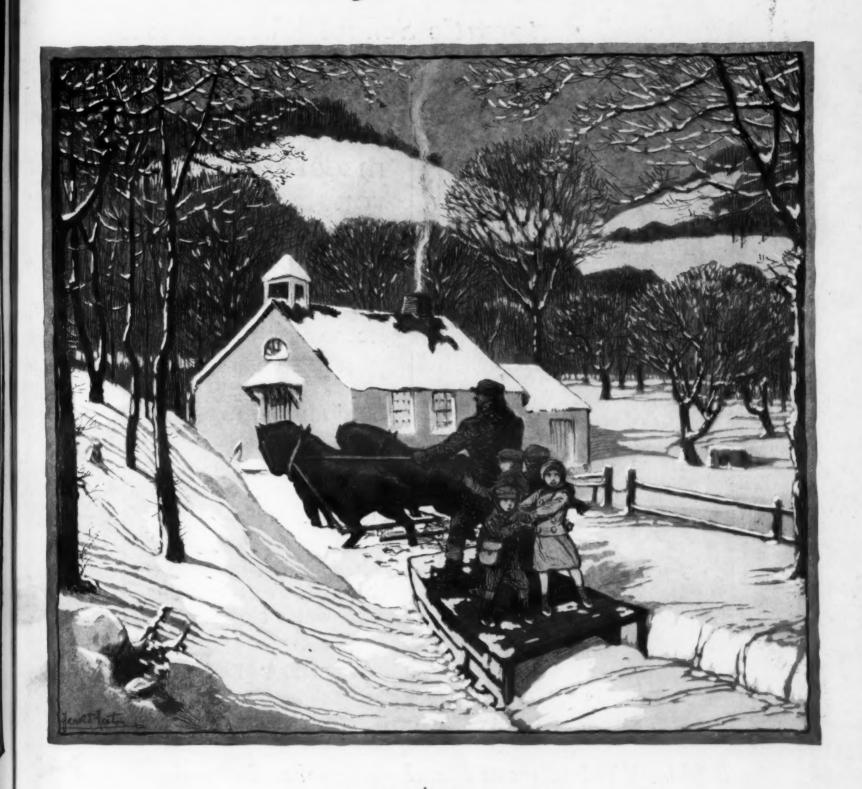
THE AMERICAN School Board Journal A PERIODICAL OF SCHOOL ADMINISTRATION

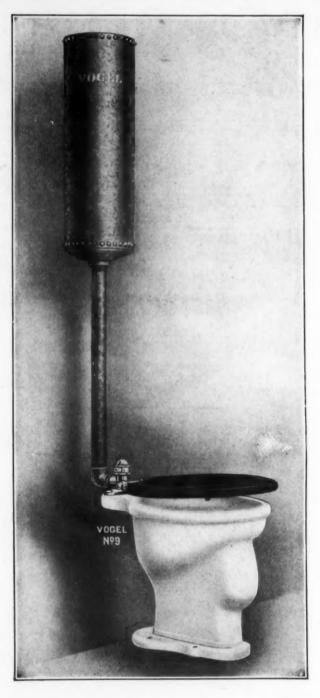


DECEMBER, 1926

The Bruce Publishing Company Milwaukee, Wis.

VOCETA LA PATENTED PA

Number 9 Automatic School Water Closet



These closets are made to stand the rough usage of the school water closet.

Economical in the use of water.

Seldom requires repairs.

Easy of access when repairs are necessary.

The simplest and most durable automatic water closet.

ManyThousands in use.

Sold by Wholesalers of Plumbing Supplies Everywhere

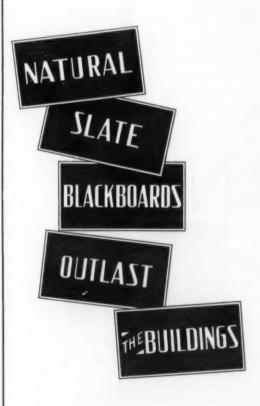
JOSEPH A. VOGEL CO.

Wilmington, Delaware

St. Louis, Missouri



Science Lecture Room Milton High School Milton, Mass.



NATURAL SLATE BLACKBOARDS ARE EVERLASTING

Actual experiences have taught school authorities the desirable qualities of Natural Slate Blackboards. Natural Slate is sanitary, fire-proof, non-porous, economical—a product of Mother Nature that cannot be duplicated by artificial methods.

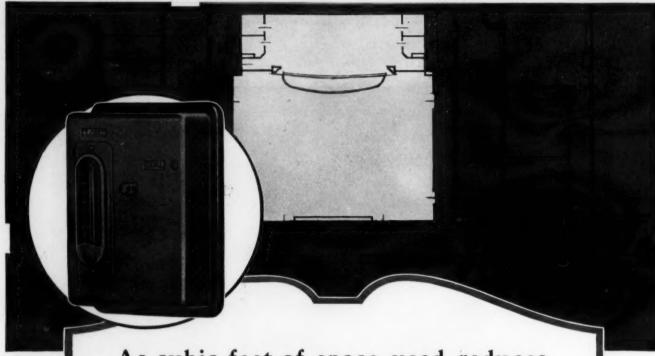
It is Sanitary, Dustless, Easy-To-Write-On, Easy-To-Clean. You, too, after having an actual experience with Natural Slate will become a staunch supporter.

Natural Slate Blackboards are now available for immediate shipments.

Write for the interesting and complete story on Natural Slate Blackboards.

NATURAL SLATE BLACKBOARD CO.

108 ROBINSON AVE., PEN ARGYL, PA.



As cubic feet of space used reduces,

Reduce the heat proportionately

Have the adjustment of your building's heat at your finger's tip: for day-time and night-time requirements. That is fortunately possible now with the Johnson System Of Temperature And Humidity Control and The

DUAL THERMOSTAT

At the end of the day the principal or janitor touches a switch on the wall of his office. The heat in all of the rooms vacated for the night is shut off: and left on only for the one or two rooms to be used at night. While each room's occupant, when desired, may similarly control his individual room's temperature, without affecting the balance of the building's regulation. Next morning the principal or janitor, by the same simple switch control, restores normal day-time temperature in ALL of the rooms, save those vacant or not to be used. Have the obvious conveniences this commanding Johnson control gives. And save the great amount of night time and vacant room fuel ordinarily excessively consumed for the sake of that portion occupied.

Write For Details Or Working Model Demonstration.

JOHNSON SERVICE COMPANY

MILWAUKEE, WISCONSIN

TWENTY-NINE BRANCHES — UNITED STATES AND CANADA AUTOMATIC TEMPERATURE REGULATION SINCE 1885

JOHNSON SYSTEM OF TEMPERATURE AND HUMIDITY CONTROL

The All Metal System
THE DUAL THERMOSTAT System





More Recent Schools Equipped With Johnson Dual Thermostat Control

St. Boniface School,
Cold Spring, Minn.
Wiebolt Hall,
University of Chicago.
School of Mines,
Butts, Mont.
Normal School,
Spearfith, S. D.
High School,
Laier School,
Kaier School,
Melvindale, Mich.
High School,
Nation, Iowa.

Mechanical Laboratory,
Case School of Applied Science,
Claveland, Ohio.
University of Nevada,
Reno, Nevada.
College of Pharmacy,
Albany, N. Y.
School No. 18,
Troy, N. Y.
Garfield Junior High School,
Johnstown, Pann.
Old Forge School,
Old Forge, N. Y.

Ferndal School,

Iron Mountain, Mich.
Salina School,
Oakman School,
High School,
Fordson, Mich.
Chas. Dickens Elementary School,
Perry School,
Claveland, Ohio.

Claveland, Ohio.

Blaine Summer School,
Peoria, Ill.

Harper School,
Claveland, Ohio.

Public School No. 101,
Manhattan, N. Y.

Public School No. 124,
Queens, L. I., N. Y.

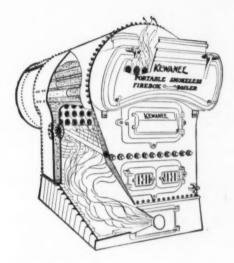
Bancroft School,
Youngstown, Ohio.

High School,
High Point, N. C.

These In Addition To Previous Lists Published In This Publication.

KEWANEE

Steel Boilers



The water tube grate and header is built into Kewanee Smokeless Boilers in the high temperature zone of the firebox directly above the oil burner. The pumping action furnished by the rapid formation of steam in these tubes causes forced circulation of the whole large waterways, this circulation sweeps the steam bubbles from the heating surfaces and thus maintains the most effective condition for the transfer of heat.

Have the Circulation so Vital for Burning Oil

The burning of oil produces a quick, hot fire. Hence to be efficient when burning oil, a boiler must have circulation sufficient to transfer all the heat created into the water. The picture shows the matchless circulation provided by Kewanee Smokeless Boilers.

High Fireboxes Give Ample Mixing Space

Also; oil must be burned in a firebox properly designed so that sufficient room is provided in which the oil and air can mix. Big and high fireboxes have been a Kewanee "hobby" since the first one was built.

Great Strength is Also *Important*

The sudden changes in the temperature of the firebox caused by burning oil demand great strength. The greatest known strength in boiler building is obtained by the riveted steel construction used in all Kewanee's.



KEWANEE BOILER COMPANY

KEWANEE, ILLINOIS

Grand Rapids, Mi Indianapolis, Ind. Kansas City, Mo.

Texas Los Angeles, Calif.
Appids, Mich.
bolis, Ind.
City, Mo.

Los Angeles, Calif.
Memphis, Tenn.
Milwaukee, Wis.
Minneapolis, Minn.

HEATING BOILERS, RADIATORS, WATER HEATERS, TANKS AND WATER HEATING GARBAGE BURNERS

Von Auprin

Self-Releasing Fire Exit Latches

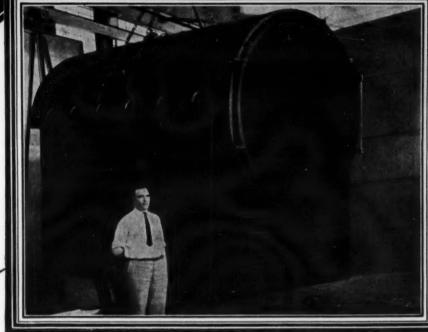
There are many ways in which we could make Von Duprin latches cheaper = But we know of nothing we can do to make them BETTER.

VONNEGUT HARDWARE CO.

Indianapolis, Ind.









Pacific Boilers are known for long life and uninterrupted service. Tremendous strength is built into every unit. Note the illustration. Here is a giant Pacific Boiler weighing 28,000 pounds suspended by 4-21/2 in. connections, a strain of approximately 31/2 tons at each point. Never under any operating condition could such stress be exerted.

All other parts of Pacific Boilers are built with corresponding strength. Little wonder, therefore, that these boilers go along year after year, giving perfect, uninterrupted satisfaction to users.

Let us send you complete information.

GENERAL BOILERS COMPANY, Waukegan, Ill.

STEEL HEATING BOILERS

SPENCER VACUUM CLEANING SYSTEMS



C. T. PLUNKETT JUNIOR HIGH SCHOOL, ADAMS, MASS



THOMAS SNELL WEAVER HIGH SCHOOL, HARTFORD, CONN.
Frank Irving Cooper Corporation, Architects.

The Universal System

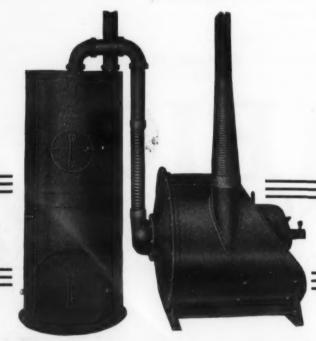
The recommendations of our Engineering Department may be obtained on any cleaning problem without cost or obligation.

Due in part to the inherent characteristics of the multi-stage turbine and to the correct design and proportions of the system as a whole, Spencer equipment produces the right proportion of vacuum to volume at the end of the hose, for both bare floor work and carpet work, which proportion is automatically changed as often as the operator changes from one class of work to the other. This proportion remains uniform not only for different kinds of cleaning, but also for different distances from the machine, representing the same efficiency on the top floor as on the ground floor.

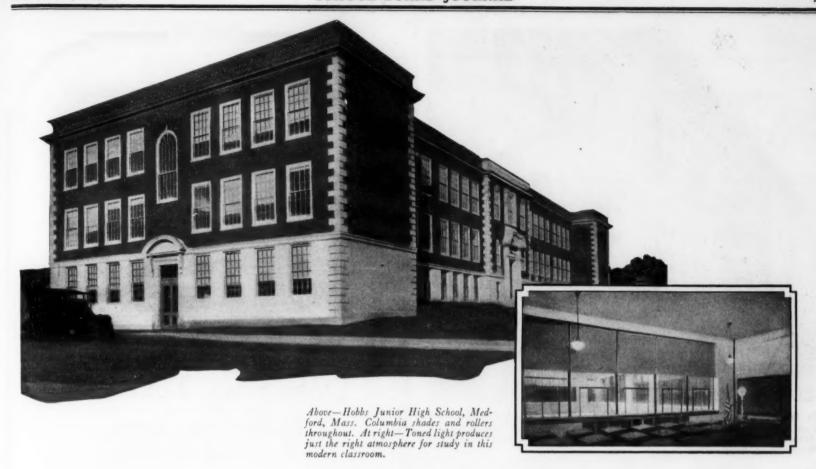
The Spencer System is therefore a universal cleaning system operating with uniform efficiency regardless of the distance or nature of the cleaning.

A system of rugged construction—the Spencer is a machine of great simplicity and durability. There are no valves, belts or other complicated parts requiring constant adjustment or repairs. The cleaning appliances and tools are few, simple and strong—all wearing surfaces easily, quickly and inexpensively replaced.

Write for list of school installations and complete data regarding Spencer equipment.



THE SPENCER TURBINE COMPANY HARTFORD, CONNECTICUT



Daylight saving all winter long!

Scene: School classroom.

1st pupil (whose desk is near the window): Miss Blake, this bright light hurts my eyes. May I pull down the window shade?

2nd pupil (whose desk is far from the window): But, Miss Blake, if he pulls down that shade any farther, I won't be able to see. It's dark enough as it is.

Of course, school children are "difficult"—especially toward the end of the day.

But in this case the real fault is with the window shade—the dark, gloomy, opaque shade. Raise it, and the desk by the window is flooded with nerve-racking, eyestraining glare. Lower it, and the desk away from the window is overshadowed. On goes the electric light, because free daylight is barred out—wasted.

But there is, fortunately, a happy medium—a window shade which saves daylight by making the most of daylight.

When you come to buy

window shades for your school, specify Columbia Shades. Then your daytime lighting troubles will be over! The translucent tone colors of these shades let in plenty of light and shut out glare. That's all there is to it.

But that's enough. Installations in scores of modern schools have conclusively proved that *Columbia* daytime lighting (pleasant, soothing, evenly diffused) is a definite encouragement to better marks and better deportment on the part of the pupils.

Your building committee or trustees will find our standard specifications for window shades a handy guide to details of purchase and installation. It is sent gratis together with samples of *Columbia* shade cloth and a specimen *Columbia* roller.

The Columbia Mills, Inc. 225 FIFTH AVENUE, NEW YORK

Baltimore Boston Chicago Cleveland Detroit Cincinnati Kansas City Minneapolis Pittsburgh New Orleans Philadelphia Portland (Ore.) Fresno St. Louis San Francisco Los Angeles



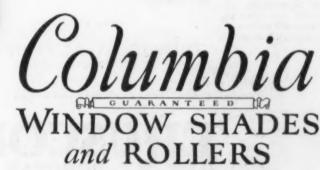
There is a marked difference between Columbia window shade rollers and those of other makes. Columbia rollers are not only more rugged, durable and silent in operation, but incorporate numerous detail refinements, such as nickelplated ferrules that are rust-proof.

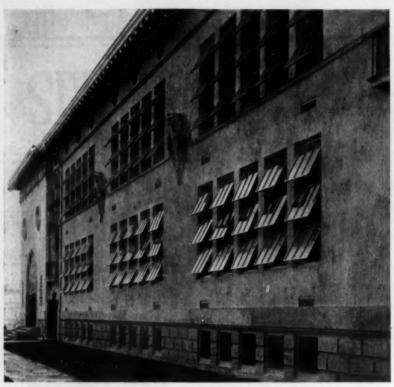
You can save time and trouble

and insure shade satisfaction by using the Standard Specification for Window Shades which we'll gladly send on request. This covers in detail every point which should be included in your specification. A specimen roller and samples of Columbia Cloth are sent with the specification. Just fill in coupon and mail to The Columbia Mills, Inc., 225 Fifth Avenue, New York.

Name..... Street

City......S-12-26





St. Mary's Parochial School, Phoenix, Ariz. Archt.: Lescher & Mahoney. Contr.: A. F. Waselewski Co. Truscon Donovan Awning Type Windows. Architectural Projected and Circle-Head Windows. Industrial Projected Windows in Basement.

Ventilation without Draught—Daylight without Glare



Note this ingenious modern solu-tion of the com-bined shade and ventilation prob-lems in the Truscon Donovan Truscon Donovan A w n i ng T ype window. All sash operate from the lower as manual, or separately. A child can open or close all sashes at once with ease. once with ease.

In many of the latest school buildings Truscon Donovan Awning Type Windows were installed and have met with immediate and enthusiastic approval. They insure a healthful abundance of fresh air and the maximum amount of daylight. They are easily operated— move the bottom sash and the upper sashes are opened or closed simultaneously. Or, by releasing a catch, the bottom sash operates independently, leav-ing the upper sashes in any desired position. No poles are needed-no straining or sticking.

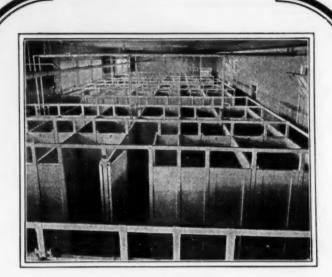
The Truscon Awning Type Window was developed primarily for use in American school buildings in accordance with the method of ventilation recommended by the New York Commission on Ventila-tion, headed by Dr. C. E. A. Winslow of the Yale School of Medicine. The general approval which greeted the introduction of Truscon Awning Type Windows shows that this is the ideal window for schools.

Catalog on request.

TRUSCON STEEL COMPANY YOUNGSTOWN, OHIO

Warehouses and Offices in all Principal Cities.





Weisteel Dominant Features

Mean Extra Years of Hard Service

These are but six of the many quality points which have made Weisteel "dependable, yearafter-year.

Weisteel Dominant Features:

- 1. 16 gauge, Keystone Copper-bearing, rust-resisting, furniture steel.
- Weisteel special-design, universal hinges, simple, fool-proof, durable.
- Weisteel doors are electrically welded into one solid unit. Foot castings are brass. Brass latch and pull are nickel-plated.
- 4. All joints are closed and sealed. No ledges or crevices to catch or hold dirt.
- 5. Pleasing, yet practical designs harmonize with other quality equipment.
- Weisteel Cooperative Plan saves you time and cost.

Just send us a simple layout of your space and facilities. We will send full recommendations and quotations without obligations.

Weisteel Cooperative Plan

Send us rough layout of toilet rooms, indicating plumbing facilities and requirements. We make up complete plans and specifications for your particular requirements and send them to you with quotations.

Compartments are shipped with simple diagram and complete erection instructions indexed to numbered compartment sections. No fitting, cutting or drilling is necessary when erecting Weisteel, and it is virtually impossible to make mistakes. Specialized labor unnecessary.

In replacing old installations, this plan saves you much time, cost and worry. It assures you that the completed installation will be fully satisfactory. For new building installations the Cooperative Plan is equally valuable in working with the architect.



Toilet and Shower Compartments Dressing Room Partitions Hospital Cubicles

HENRY WEIS MANUFACTURING CO., Inc. Elkhart, Indiana (Formerly Atchison, Kansas).

Branch Offices: k Chicago Los Boston Atlanta New York Los Angeles

Representatives in all Principal Cities.

Established 1876.

UNIVENT and Glass - make the difference





Univent Equipped Somerset High School, Somerset, Penna mbria Plumbing & Heating Co., Heating Contractors
Johnstown, Penna. E. H. Walker, Architect, Somerset, Penna.



VENTILATION

UTSIDE—a sweeping spray of snow—a biting wind

But in the classroom—an automatically controlled, comfortable temperature—a dust-free, chill-free, draftfree stimulating atmosphere.

Just as the window glass lets in light but guards against the elements and keeps out dust and noise, the Univent protects precious lives with a constant supply of invigorating outdoor air-robbed of its chill and warmed to the exact temperature desired.

Regardless of extremes of weather, the Univent brings fresh outdoor air into the schoolroom, tempers it, and delivers it to each pupil without draft.

Write for the book of facts on Univent Ventilation. It shows clearly why it is simpler and more economical than opening windows, and incomparably more effective.

Mfd. only by THE HERMAN NELSON CORPORATION, Moline, Ill.

Builders of Successful Heating and Ventilating Equipment for 20 Years

BELFAST, ME. BOSTON NEW HAVEN

NEW YORK CITY SYRACUSE PHILADELPHIA SCRANTON

PITTSBURGH GRAND RAPIDS DETROIT

Sales and Service COLUMBUS TOLEDO INDIANAPOLIS

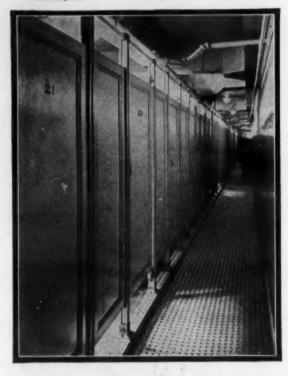
DES MOINES MILWAUKEE MINNEAPOLIS ST. LOUIS

SAN FRANCISCO EMPORIA OMARA

SALT LAKE CITY SPOKANE

VANCOUVER TORONTO





It's a Stronger Partition

THAT Sanymetal Partitions have outstanding features of strength and rigidity can be demonstrated by a study of these

(1) Unique and original Interlocking Design in the assembly of units holds all members in a rigid grip.

(2) More-than-adequate bolting at floor and wall—the installation actually becomes part of your building.

(3) The sheet metal panels, posts, and molds are, at every point, of sufficient gauge to stand unexpected stress and strain. There is no skimping—no "thin sheets."

Sanymetal Toilet and Office Partitions are made in a grade and design adapted to every requirement of price and service. The consulting and layout service of our competent engineering department is at your disposalwithout obligation.

> Sanymetal Products for Schools are: Sanymetal Products for Schools are: Toilet, shower, dressing and urinal compartments. Corridor and smoke screens. Metal doors and wainscot. Sanymetal Gravity Hinges. Write for New Catalog No. 15.

The Sanymetal Products Co.

1703 Urbana Road Cleveland, Ohio



Upkeep costs Cut them these five proved ways

One of your responsibilities is to keep down the cost of repairs on your school property.

The five products described below will help you do this. They will make your repairs less frequent and less expensive. School Boards all over the country have used these products for years with excellent results. They can save you money, too.

Concrete floors

Hundreds of hurrying young feet are constantly wearing down your concrete floors. This wear on the concrete surface fills the air with irritating, unhealthy concrete dust and invariably leads to expensive repairs.

A treatment of Lapidolith, the original concrete floor hardener, will make dust and wear a thing of the past.

Lapidolith looks much like water and is just as easy to apply. Concrete floors treated at night are ready for business in the morning. Old floors may be treated as effectively as new.

The action of Lapidolith is chemical. It penetrates the porous cement, binds the loose particles together, and fills up the voids. It gives your concrete floors an even, close-grained surface that is flint-like in its hardness.

2 Wood floors
Even the best wood floors

splinter and dry out. Floor oils have little effect. Lignophol is a preservative floor dressing that penetrates the wood fibres and restores the natural gums and oils. It prevents splintering, rotting, or drying out. It gives you a smooth dustless floor that will wear for years. The additional life of the floor pays over and over for the initial cost of Lignophol.

Painted surfaces Repainting is a necessary nuisance. But Cemcoat will make it necessary to paint less frequently. Cemcoat is a gloss, egg-shell, or flat enamel paint that is noted for its unusual wearing qualities.

Cemcoat will cut your painting bills considerably. Ink stains and finger marks disappear as easily as from a polished surface. You can wash it again and again. It usually requires one less coat on a given surface. It does not crack or peel. It is made for exteriors as well as interiors in whites and colors.

Roofs

Roof leaks are always annoying. They often lead to expensive repairs. Stormtight will stop leaks before they become serious. It will stop them quickly, easily and permanently.

Stormtight is an adhesive, elastic substance that will add years of wear to even old, apparently worn out roofs. If it is applied to the whole roof it will keep leaks from developing. You can get it in any quantity in either the semi-liquid or the plastic form.

5 Exterior Walls
Damp buildings are hard to keep warm. They are unhealthy. You can keep your buildings dry and warm even during the wettest weather with Hydrocide Colorless. This liquid is easily applied to the outside of any building. It is invisible, and so will not detract from the natural beauty of the walls. It will never run in hot weather. Hydrocide Colorless will permanently protect your buildings against dampness.

Learn more about these products. Send for free samples and more detailed information.

L. Sonneborn Sons, Inc. 114 Fifth Avenue, New York City





An Albert Pick & Company Cafeteria of unusually large proportions—Mobile High School, Mobile, Ala.

Engineering knowledge alone can produce a School Cafeteria that is practical in operation, low in first cost and free from expensive replacements.

Albert Pick and Company offers you the services of the country's foremost authorities. Their experience and knowledge of the field are invaluable. Consult them without obligation.

Send for this free book—of interest to every educator. Just ask for book Y93

ALBERT PICK COMPANY
208—224 W. RANDOLPH STREET, CHICAGO

WATER COOLER

SCHOOL CAFETERIAS

ALBERT PICK COMP



No Doubt About Safety, Here!

Cyclone Fence provides controlled entrances and exits for school play-grounds. Children are safeguarded on entering, leaving school grounds, and while at play. In this day of crowded motor traffic, Cyclone Fence is a vital part of school equipment—for satisfactory service and maximum durability.

The Standard Playground Enclosure

Cyclone Chain Link Fence is recognized by school authorities everywhere as the standard enclosure for school grounds. Fabric and tubular framework are made of Copper-Bearing Steel, for maximum endurance. Volume output and improved methods make Cyclone Prices lower today than ever before.

We also manufacture Wrought Iron Fence. Phone, wire or write nearest offices for complete information.

CYCLONE FENCE COMPANY

FACTORIES AND OFFICES: Waukegan, Ill., North Chicago, Ill. Cleveland, Ohio, Newark, N. J. Fort Worth, Texas.

Pacific Coast Distributors:
Standard Fence Co., Oakland, Calif.
Northwest Fence & Wire Works, Portland, Ore.

Gelone Reg. U. S. Pat. Off. Fence

CYCLONE COPPER-BEARING STEEL ENDURES



The Mark of Quality Fence and Service

Safety in Schools



School officials, who are responsible for the protection of the lives of the pupils and are anxious to make proper provision for quick exit in case of fire or panic, will find in

SARGENT

Fire Exit Door Bolts

an adequate equipment which meets all conditions. The Sargent Cylinder Locks with which they are fitted provide for complete security and prevent entrance from the outside of the building when school is not in session, while they can be arranged to permit entrance during school hours, if desired.

Quick Exit at All Times

is provided and in case of necessity the doors can be instantly opened by slight pressure on the handle bars at any point.

Door Checks

close the doors, during their day by day use, quickly and quietly, the application shown in the illustration with the Sargent special foot (No. 35) being particularly desirable.

Sargent Fire Exit Door Bolts, Locks and Hardware are sold by representative dealers in all cities.

SARGENT & COMPANY

Manufacturers
New Haven, Conn.

New York

Chicago

Awning Type Windows for Schools and Hospitals Excel for Health



Alameda High School, Alameda, California Carl Werner, Architect, San Francisco, California

READ THIS ENDORSEMENT OF A RECENT INSTALLATION OF "DONOVAN"-UNIVERSAL WINDOWS BY MR. WM. G. PADEN, SUPERINTENDENT OF SCHOOLS, ALAMEDA, CALIFORNIA.

Universal Window Company, 1916 Broadway, Cakland, California

The Universal window has given such complete satisfaction in the Lincoln School that we have standardized on it for the entire department. At present it is being installed in our new million dollar high school.

I requested Mr. Thomas, our building superintendent, to point out for me all points, for or against the window. He stated there were no points against the window at all and he noted the following in favor of it:

- 1. Ease and simplicity of operation.
 2. Simplicity of mechanism.
 3. Absence of mindows poles in room saved a good many broken windows.
 4. On a warm, sunny day the ourteins could be drawn, the windows pushed out, making a perfect awning.

Personally I feel that the window is superior in every

respect to any window on the market.

Very sincerely yours Superintendent of Schools



Lower sash controls operation of all sash.

NO WINDOW POLE REQUIRED.

"Donovan" — Universal Windows of the Awning Type in either wood or steel meet the prac-tical, hygienic and architectural requirements of the modern school.

DONOVAN AWNING TYPE

UNIVERSAL WINDOW COMPANY

General Sales Office — 1916 Broadway CALIFORNIA OAKLAND,

Agents in all principal Cities of the United States

Information about the Truscon Donovan Awning Type Steel Windows may be secured from the Truscon Steel Co., Youngstown, Ohio



LUDWIG ABT

Architect

20 years experience in planning of Educational Buildings

Riegel Bldg.

Moberly, Mo.

ALSOP & CALLANAN

ARCHITECTS SCHOOL SPECIALISTS

Memphis, Tenn.

Nashville, Tenn.

Jacksonville. Fla.

Registered States of Tennessee and Florida

ASHBY, ASHBY & SCHULZE **ARCHITECTS**

Specializing in School Construction Ashby, Ashby & Schulze Building 1511 West Jackson Blvd. Chicago, Illinois

J. WILLIAMS BEAL, SONS

ARCHITECTS 185 DEVONSHIRE STREET BOSTON, MASSACHUSETTS

BONSACK & PEARCE

WILL MAKE SURVEY OF YOUR NEEDS

Complete Architectural & Engineering Services by School Specialists

411 Olive Street

St. Louis, Mo.

HARRY E. BOYLE & CO.

Architects and School Specialists Furniture Exchange Building EVANSVILLE, IND. Licensed Architects State of Illinois

CHILDS & SMITH

Architects

720 North Michigan Avenue Chicago, Ill.

COFFIN & COFFIN

ARCHITECTS 522 FIFTH AVENUE NEW YORK CITY

FRANK IRVING COOPER CORPORATION ENGINEERS ARCHITECTS

SPECIALIZING IN SCHOOLHOUSE PLANNING 172 Tremont St., Boston, Massachusetts

WALTER P. CRABTREE

ARCHITECT

N B. NATIONAL BANK BUILDING NEW BRITIAN, CONNECTICUT

LEONARD H. FIELD, JR., A. I. A. ARCHITECT

510 Peoples National Bank Building Jackson, Michigan

FOELLER & SCHOBER

ARCHITECTS

GREEN BAY.

WISCONSIN

FRAMPTON & BOWERS

Registered Architects Fifteen years in planning and constructing School Houses

SIMPLICITY IN ARCHITECTURAL DESIGN Huntington, W. Va.

J. W. GADDIS

Architect

School Work a Specialty

608 - 14 American Bank Building, Vincennes, Indiana

MARTIN J. GEISE

Architect

I make a Specialty of Designing School Buildings in Illinois, Iowa and Missouri. Over 20 Years Experience

KEOKUK, IOWA. Y.M.C.A. Building

AND

QUINCY. ILL. 8th and Main Sts.

Bertram E. Giesecke

A. Watkins Harris

GIESECKE & HARRIS

Architects

Specializing in School Design

297 West 7th St.

Austin, Texas.

J. KERR GIFFEN

Architect and School Specialist

School Surveys and Preliminary Services,

First National Bank Bldg.

Canton, Ohio

GUILBERT & BETELLE

Architects

Chamber of Commerce Building Newark, New Jersey

EDWARD HAHN, Architect

School Architecture A Specialty OFFICE & STUDIO

Professional Building,

Hempstead, N. Y

Wm. G. Herbst, A, I. A. E. O. Kuenzli, A. I. A. HERBST and KUENZLI ARCHITECTS

Educational and Public Buildings 130 Grand Ave. Milwaukee, Wis.

HERSH & SHOLLAR

Specialists in School Building Design ALTOONA, PENNA.

Registered Architects in Pennsylvania Members So. Penna. Chapter American Institute Architects

WILBUR A. HITCHCOCK

ARCHITECT

SPECIALIZING IN EDUCATIONAL BUILDINGS

HOLMES & FLINN

Architects

Specializing in Educational Buildings 8 S. Dearborn St., Chicago, III.

WARREN HOLMES - POWERS COMPANY ARCHITECTS AND ENGINEERS

Inventors of the "HOLMES" System of School Planning Surveys made by our Educational Departme 64 W. Randolph St. 112 E. Allegan St. CHICAGO, ILL. LANSING, MICH.

WM. B. ITTNER, Inc.

A Quarter Century in School-house Planning and Construction Nineteen Years-Architect, Board of Education, St. Louis, Mo.

Superior Architectural and Engineering Service Rendered

Karl K. Keffer

Earle E. Jones

KEFFER & JONES, Architects

Masonic Temple

DES MOINES, IOWA

nitectural and Structural Design. Mechanical Equipment of
Buildings. Specializing in Iowa Consolidated Schools
High and Grade Schools Architectural and Structural Design.

Architects

KILHAM, HOPKINS & GREELEY

9 Park Street.

Boston, Mass.

FERD. L. KRONENBERG ARCHITECT

18 N. Carroll St., Madison, Wis.

Special attention given to school planning

LEWIS & DOUGHERTY

Architects

35 North Dearborn St., Chicago, III.

Joseph C. Llewellyn

M.W.S.E. and A.I.A.

JOS. C. LLEWELLYN CO.

ARCHITECTS and ENGINEERS

38 S. Dearborn St.

Chicago.



T. MACLAREN

Member of the American Institute of Architects ARCHITECT

320-322 Hagerman Bldg., Colorado Springs, Colo.

MALCOMSON & HIGGINBOTHAM

Architects

1217 Griswold St.,

Detroit, Mich-

MORRIS W. MALONEY

ARCHITECT

23 Pearl Street SPRINGFIELD, MASS.

HERBERT MEREDITH McCULLOUGH Registered in Penna.

SPECIALIST IN SCHOOL DESIGN CONSULTING SERVICE TO SCHOOL BOARDS

Ferguson Building

Pittsburgh, Pa.

W. H. McLEAN

ARCHITECT 713 TREMONT TEMPLE, 88 TREMONT ST., BOSTON, MASS.

Specialist in Designing and Planning of School Buildings

KARL D. NORRIS

ARCHITECT

205 Calumet Building

Phone 282

EAST CHICAGO

INDIANA

OPPENHAMER & OBEL **ARCHITECT & ENGINEERS**

Our Specialty-Designing and Construction in Public Schools Suite 408, Bellin Bldg. GREEN BAY, WIS.

PERKINS, FELLOWS & HAMILTON

814 Tower Court, Chicago, Illinois

Members of the American Institute of Architects

PETERSON & JOHNSON

Architects Board of Education City of Rockford, III.

Sw. American Bank

Rockford, III.

JOHN NOBLE PIERSON & SON

ARCHITECTS & ENGINEERS

Specialists in School House Construction Over Two-Hundred Schools

198 Jefferson Street.

Perth Amboy, N. J.

Philip R. Hooton, A I.A. Archie N. Schaeffer

Edwin Roozen Edgar F. Lundeen, Registered State of Illinois

ASSOCIATES OF A. L. PILLSBURY

C. GODFREY POGGI

Architect - Specialist

275 Morris Avenue, Elizabeth, N. J. References: Schools of Elizabeth, N. J.

IRVING K. POND, C. E., F. and Past Pres. A. I. A. ALLEN B. POND, F. A. I. A.

EDGAR MARTIN, A. I. A. M. Am Soc. C. E. ALBERT L. LLOYD

POND & POND, MARTIN AND LLOYD ARCHITECTS

6 North Michigan Avenue.

CHICAGO, ILL

ROBERT J. REILEY

ARCHITECT

12 East 41st St.

New York, N. Y.

A. W. E. SCHOENBERG ARCHITECT

OLEAN.

N. Y.

ERNEST SIBLEY, A. I. A. ARCHITECT

LAWRENCE C. LICHT, Associate

PALISADE. Studio on the Palisades

NEW JERSEY Opposite New York City

C. B. J. SNYDER, F. A. I. A.

CONSULTING ARCHITECT

Educational Buildings and Equipment

185 Madison Avenue - New York

STARRETT AND VAN VLECK **ARCHITECTS**

Equitable Life Building

393 Seventh Avenue, New York, N. Y.

OREN THOMAS

SCHOOL ARCHITECT

508 Old Colony Bldg.

DES MOINES, IOWA

TOOKER & MARSH

ARCHITECTS

101 Park Ave.

New York City, N.Y

TOURTELLOTTE & HUMMEL ARCHITECTS

311 Failing Building, Portland, Oregon

Twenty Years of School-house Planning, Scores of Build-ings in Oregon, Idaho and Washington, Assistance render-ed School Boards from the inception of the Building Pro-ject until its completion.

CHARLES L. TROUTMAN

Registered Architect & Engineer School Specialist

410 American Trust Building,

Evansville, Ind.

HENRY H. TURNER

Architect, Institutional Specialist

Michigan Trust Building Grand Rapids, Michigan Architectural, Engineering Equipment and Consulting Service Architect Board of Education City of Grand Rapids 1909 to 1920

Frank Upman, A. I. A. Percy C. Adams, A. I. A.

UPMAN & ADAMS REGISTERED ARCHITECTS

Woodward Bldg.

Washington, D. C.

W. J. van der Meer ARCHITECT

Schools and Kindred Institutions

208 MEAD BLDG.

ROCKFORD, ILL.

Van Leyen, Schilling & Keough

Architects and Engineers

3440 Cass Avenue, Detroit, Michigan

Specializing in EDUCATIONAL and Society Buildings
Our Organization Embraces Architects and Specialists in Structural,
Heating Ventilating, Electrical and Power Engineering

VERNER, WILHELM & MOLBY R. F. SHREVE, A

ARCHITECTS & ENGINEERS

Specializing in Educational Buildings

Book Building

Detroit, Mich.

B. C. WETZEL & COMPANY

Architects

2317-18 Dime Bank Building

DETROIT

MICHIGAN

Edw. J. Wood, A. I. A.

Carleton C. Wood

EDWARD J. WOOD & SON

Architects

Specialists in School Design
We also furnish Consulting Service to School Boards

Lowndes Building

Clarksburg, W. Va

J. C. WOOD CO.

ARCHITECTS

Specializing in School Buildings Licensed in State of Illinois

410 Howes Block

CLINTON, IOWA



25 Years ... Hard Usage Establishes Kewaunee Quality

The strain of daily use . . . 25 years of it, cannot detract from Kewaunee long life. For into Kewaunee equipment is built sturdiness . . . strength to withstand everyday abuse. The passing of years leads to but reassured confidence in Kewaunee. Faith in any product bearing the Kewaunee label.

Every detail of the Long Island Art Table reflects the Kewaunee Standard. Painstaking workmanship throughout...in joints, drawers, and top. Infinite care to prevent warping, shrinking and sagging. Built entirely of oak...at no added cost, to give years of service.

This table has gained recognition . . . a preference that only a quarter of a century of leadership has made possible.

"Kewaunee Means Quality In School Furniture"

Write for Catalog No. 8

Kentannee Mfg. Co.

DESIGNERS AND MANUFACTURES OF

ART, AND MECHANICAL DRAWING ROOM FURNITURE FOR SCHOOLS AND COLLEGES

Economy Plant No.2 Adrian, Mich.

A SHADE IS ONLY AS GOOD AS ITS ROLLER



You can reason with a bad pupil but not with a bad window shade

As MUCH of a teacher's energy can be used up on a bad-acting window shade as on a bad-acting pupil.

Why experiment with shades? To make sure of perfect service simply specify that all shades be of Hartshorn manufacture. Be particularly sure that every shade is mounted on a genuine Hartshorn Roller.

You may be told that other rollers are just as good as the Hartshorn. But remember this: Stewart Hartshorn in 1864 invented the window shade as it is known today. Hartshorn Rollers contain his mechanism. For 60 years it has proved its superiority.

Maps and charts are expensive — mount them on Hartshorn Rollers.

For window shades that will meet your needs exactly, specify Hartshorn's Oswego Tinted Cambric Shade Cloth mounted on Hartshorn Rollers with No. 86 or No. 87 double brackets.

WRITE FOR NAME of dealer through whom you may secure Hartshorn Shade Products and for samples of colors: Sage, Linen, Putty, Dust, Dill, in Tinted Cambric especially adapted for school use.

Harbina 1860

STEWART HARTSHORN CO., 250 FIFTH AVE., NEW YORK CITY

ECONOMY IS NOT DETERMINED BY PRICE

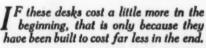


Any More Than Art is Determined by Paint!

WHEN an industrial plant is being equipped, the question considered is not: "How little money will it cost?" but rather—"How will the equipment serve? Will it wear without constant repair? Can parts be supplied, when renewal is necessary? Will the organization supplying the equipment be ready to stand behind its product at all times?"

It is just such questions as these which the buyer of school seats should put to himself. The exterior of school seats may be similar in general outline, but the essential superiority of one desk to another depends upon qualities BUILT INTO IT, beneath the surface.

And it is these HIDDEN features [sturdiness and dependability, the lasting satisfaction of continued usage] which have created for "American" school equipment countrywide recognition. Promptness of delivery, too, is an important factor. In our 53 distributing stations throughout the United States a supply of many models constantly awaits your order. Shipment is thus facilitated, regardless of rush seasons.





Write For Catalog S-125



American Seating Company

14 East Jackson Boulevard, Chicago

The Factory is in Michigan, but the Service is Local to you

Build For The Future

Plan your equipment purchases with the same idea of permanence with which you plan the school building.

Properly designed furniture, of handsome appearance and

strong sturdy construction, should last indefinitely, and help

materially to reduce replacement costs. Get acquainted with Hamilton Quality.

We show to the left Hamilton School Table No. 500 which has private compartments for six students. Ask for Catalog.

Hamilton Mfg. Co. Two Rivers, Wis. Rahway, N. J.









Send For This Free Booklet



"Seating Efficiency" is a booklet that should be in the hands of every educator. It outlines the new "group instruction" plan for greater seating efficiency for first and second grades—a new and better method endorsed by leading educators. Get the facts.

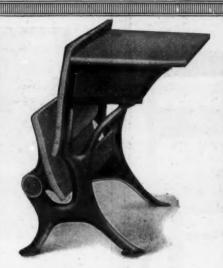
Send for your copy today.

RINEHIMER BROS. MFG Co. ELGIN, ILL.

DEPT. OF SCHOOL FURNITURE



MOVABLE CHAIR DESK.
Three Adjustments.
Rigid, Non-Vibrating Top.



SANITARY SCHOOL DESK.
Noiseless Folding Seat. Semi-Steel Standards.



SANITARY ADJUSTABLE DESK. Adjustable Seat and Top. Semi-Steel Standards.



THE HOME OF PEABODY PRODUCTS



The home of Peabody Products is a modern plant, operated by an efficient industrial family. Twenty years' experience in the manufacture of high grade School Furniture. Every article sold with a guarantee to give complete satisfaction in every respect. "Peabody" service will please you.

The Peabody School Furniture Co.

North Manchester, Indiana.

Write for Catalog and Price List



PEABODY PRODUCTS



FOLDING CHAIR No. 51. Form Fitting 5-Ply Veneers. PATENTED JAN. 18, 1910.



TEACHERS' DESKS—SEVEN PATTERNS.
Built with Solid Oak Tops.

SERVE YOU BEST



NON-TIP FOLDING CHAIR No. 70, Folds as Flat as a Board.

PATENTED NOV. 12, 1918.



Thompson Correct Posture

Derby school equipment is made under the Earl Thompson Correct Seating Patents. It can not, therefore, be successfully duplicated.

Earl Thompson was the first to answer the call of educators for seating units that would correctly seat and support the bodies of growing children. So successful is its construction, so decided its appeal, that there have been many imitations of it.

This is a good movement. It makes available better school seating. It establishes Thompson more firmly as the leader of a great and worth while movement. It should be remembered, however, that correct seating is at its best only in the Derby units.

In the selection of school equipment Derby asks that educators request the opinions of doctors and orthopedists relative to the exactness of the Thompson construction. We are willing, are anxious, that our equipment be compared to any other.

Derby units were constructed with the advice and co-operation of educators. For this reason we believe that we offer equipment well suited to meet all school needs.

P. DERBY & Co. INC.

Chairmakers for 80 years GARDNER, MASS.

20202220202020202

NEW YORK

BOSTON



Class Room, High School, Lancaster, Pa .- Readsboro Furniture

IN SCHOOL FURNITURE YOU WANT DURABILITY, COMFORT, AND APPEARANCE.

IN "READSBORO PRODUCTS" YOU HAVE ALL.

Adjustable and Two-Unit School Desks and Chairs. Tablet Arm Chairs. Portable Assembly Hall Seating in Sections in a wide variety of styles.

Kindergarten Chairs and Tables, Sand Tables.

Folding Chairs for every purpose. Umbrella Racks.

Inquiries and Orders receive careful and prompt attention.

READSBORO CHAIR COMPANY READSBORO, VERMONT

SALES ROOMS:

ALBANY, NEW YORK
11 Steuben Street
ATLANTA, GEORGIA
553/2 Luckie Street
BALTIMORE, MD.
714 N. Howard St.
BOSTON, MASS.
27 Haymarket Square
CHARLOTTE, N. C.
1900 South Boulevard

CINCINNATI, OHIO
S. E. Cor. 3rd and
Walnut 5ts.
CLAIRTON, PA.
36 Fourth St., North,
Wilson Sta.
CLEVELAND, OHIO
308 Prospect Bldg.

HOUSTON, TEX.
1112 Preston Avenue
KANSAS CITY, MO.
1513 W. Ninth St.
LITTLE ROCK, ARK.
Bathurst Building
MINNEAPOLIS, MINN.
235 Sexton Building

NEW YORK CITY,N.Y.
1123 Broadway
PORTLAND, MAINE
BOX 742
SAN FRANCISCO,CAL.
601 Mission Street
SYRACUSE, N. Y.
310 Kensington Road
TRENTON, N. J.
206 West State Street

MANUAL TRAINING BENCH No. 280



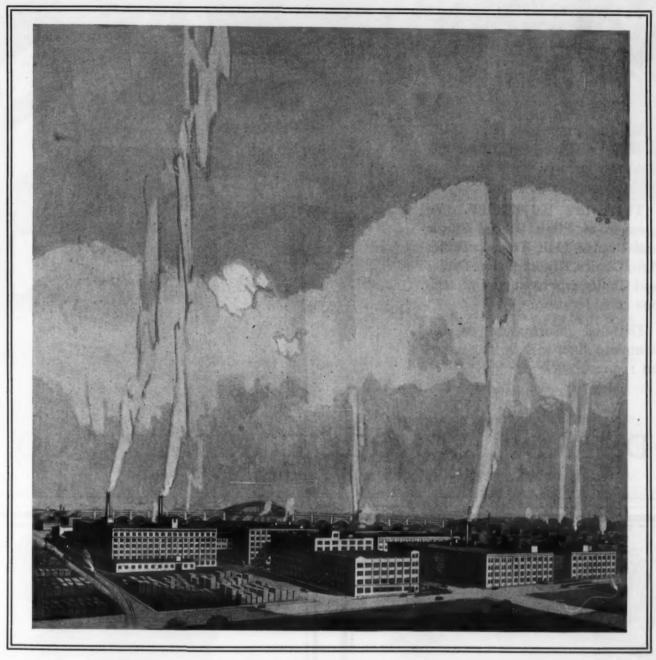
AGLANCE AT THIS NEW PATTERN will show that the combination of various sized drawers and cupboard makes an unusually practical bench. Notice, especially, the small drawer which is intended to hold nails, screws, small tools, etc., which so easily become misplaced when kept with the larger tools. Being able to immediately lay hands on these small but necessary items, will be the means of saving a great deal of time, thereby promoting efficiency. Also, notice the large cupboard, which will hold such tools and materials which can not be kept in the general or three private drawers. Bench is equipped with our Abernathy Rapid Acting Roller Nut Vise No. 70D on front, adjustable stop and dog.

C. CHRISTIANSEN

Manufacturer of this line since 1898

2814-2842 West 26th St.,

Chicago, Ill.



Plant of The Theodor Kundtz Co., Cleveland, Ohio, where Eclipse School Furniture is made.

N this great plant covering come eighteen acres of manufacturing floor space, there is a definite purpose—to raise the quality of School Furniture. Such vital factors as the selection of raw material—structural engineering—scientific study for correct sitting posture; the important process of applying the time proven lacquer finish—are essentials in the building of "Eclipse" School Furniture and on these principles and a half century of woodworking experience, "Eclipse" quality is based.

There are vast differences in School Furniture—see "Eclipse"—hnow "Eclipse" buy "Eclipse"—and be assured of the best.

Offices in All Principal Cities

Write for Complete Catalogue

The Theodor Kundtz Company Cleveland, Ohio

Established 1875



The Improved "DETROIT CHAIR-DESKS" (as illustrated) is highly praised by Authorities on Modern School Equipment.

The entire "DETROIT" line consists of High School Single and Double Unit Tables, Tablet Arm Chairs, Kindergarten Tables and Chairs and is worthy of serious consideration.

Detailed information on the complete line will be furnished on request.



DETROIT SCHOOL EQUIPMENT CO.

General Offices and Factory, Holly, Mich.



Standard School Equipment - SAFE FOR BOYS

Thousands of Wallace Portable Beltless Machines are in daily use in the large universities, city and township high schools, grade schools, consolidated, rural and private schools.

Send today for the Wallace Illustrated Catalog and details of the trial offer. Let us put you on our free mailing list to receive the Solar-Wallace Plan Service for Instructors. This includes illustrated job sheets which can be used as regular assignments.

Send today.

J. D. WALLACE & CO.

152 S. California Ave.,

Chicago, Ill.



Combination Science Table and Class Room Desk.

Above is shown a very popular physics, general science and class room desk. Eighteen of these tables may be installed in the average size class room, thus conveniently taking care of thirty-six students.

The large storage space is provided for books for the two students. The elimination of two of the corner legs makes it possible for the students to sit down and arise from their chairs as efficiently and conveniently as from an ordinary desk.

A class room equipped with these tables may likewise be used as a physics and general science laboratory. This table may be purchased with or without the upright rods. Hundreds of these tables have been sold this year for the combination class room and laboratory.

Write us for detailed information.

E. H. SHELDON AND COMPANY

Laboratory, Home Economics and Vocational Furniture

MUSKEGON

MICHIGAN



Here is a Desk that eventually will be in use in most school rooms, particularly the advanced grades, high schools, colleges, etc.

The New NATIONAL Chair-Desk

This is a new type of combination movable Chair-Desk with many apparent advantages.

It provides the utmost flexibility in seating arrangements. Classes may be augmented or diminished, or transferred to other quarters at will. Surplus equipment is readily available for other uses.

Pupils may adjust desks to fit individual requirements. Semi-circular seating may be readily accomplished when desired. It promotes individuality on the part of the student.

Two adjustments are possible: Perpendicular Adjustment, for height of writing table; Minus Adjustments, for correct distance of desk top from pupil. Adjustments may be made quickly by any child, without tools.

Everything is within easy reach. The Book-Box or Drawer is roomy and operates easily and readily on a grooved slide. It will not pull entirely out.

The back is made of two form-fitting wood supports, properly placed for comfort. It is made to endure, of the best grade of heavy quarter-sawed, selected oak, which has been both kiln-dried and air-dried. All joints double spiral doweled and reinforced.

The finish is in a soft shade of brown, easy and restful on the eyes. Scratch proof and moisture proof. The legs are equipped with noiseless sliding casters.

Equipped with the Famous Moeser Extended Arm

Available working surface more than doubled.

Full support for the back while writing.

Arm supported while writing, resulting in better penmanship and less fatigue and nervous strain.

Correct posture, encouraged by this Arm, insures protection from direct and reflected glare on the eyes.

No necessity to twist body or incur strain on the spine.

We manufacture desks of many designs. Send for our complete Catalog.

THE NATIONAL SCHOOL EQUIPMENT CO.

Manufacturers of Complete School Equipment PORT WASHINGTON, WIS.

NATIONAL School DESKS



School Cafeteria equipped with Gunn Line Tables



Lincoln Consolidated School-Ypsilanti, Mich. Warren Holmes-Powers Company, Architects

GUNN "Lino" Desks

for Teachers

"Lino" Tables

for Cafeterias
are now used in
many of our
FINEST SCHOOLS

No Breakage of Tops

Quiet and Pleasing

Sample of Top and Full Particulars on Request

THE GUNN
FURNITURE CO.
GRAND RAPIDS, MICH.

FOWLER'S LILY VCHOOL PAPERZ

Include

COLORED CONSTRUCTION PAPERS

Art Supervisors and teachers find this line of papers suitable for the many problems of construction work, covers, mounting, as well as for pencil, charcoal, crayon, or water color work. Offered in a variety of twenty-six colors.

COLORED POSTER PAPERS

Consisting of the primary, binary, standard hues, tints and shades, six grey colors, neutral grey and black—a palette of thirty-three colors in paper made expressly for the convenient and accurate study of color and the various applications.

School Writing Manila Drawing Art Bogus Cross Section White Drawing and Water Color Mimeograph
Typewriting
Pencil Practice

Estimates furnished on catalog and book papers.

Samples furnished on request
Sold through the leading School Supply Jobbers

W. A. FOWLER PAPER CO.

343 South Dearborn Street

Chicago

- at stationers and school supply stores!... One waste-basket that cannot dent or bend; cannot split or break - and that, because it is solid at sides and bottom, will not allow dust or ashes to sift through onto the floor... Guaranteed for five years!



VUL-COT

-the standard waste basket

National Vulcanized Fibre Co. Wilmington, Del., U. S. A.

We operate six great plants and maintain sales and service offices at Baltimore, Birmingham, Boston, Chicago, Cleveland, Denver, Detroit, Groenville, Los Angeles, Milwaukee, New Haven, New York, Philadelphia, Pittsburgh, Rochester, San Francisco, Seattle, St. Louis, Toronto.

CHOUNTAINS FIRM AND AUGUO

CATOMICA CAN AMEDIA

נאיסטיסטים - והייה - באי אישבים הייסטיסטים הייסטים איט אישבים איט אישבים הייסטים איט איסטים איט איסטים איט איסטים איט

COLUMBIA INDESTRUCTO CHAIR DESK

Back slats adjustable; Height and tilt of top adjustable.

Nos. 1 and 2-\$4.95; Nos. 3 and 4-\$4.80;

Dovetailed hardwood drawer \$1.50; Swinging





COLUMBIA INDESTRUCTO TEACHER'S CHAIR AT \$3.50

INDESTRUCTO'S POINTS.

- INDESTRUCTO'S POINTS.

 Seat of proper height.
 All corners rounded.
 Seat saddled to fit body.
 Seat of proper width.
 Seat tilted higher at front.
 Back tipped backward slightly.
 Back curved to fit body.
 Back adjustable in height.
 Back of solid quartered oak.
 Seat extends slightly under top.
 Desk height adjustable to child.
 Desk slant adjustable.
 11 and 12 constitute a Tilting Top.
 Curved front feet give same strength and effect as separate support.
 Desks casily moved for sweeping.
 Noiseless, no hinges or swivels.
 Arm rest extending backward.
 Simplicity—Examine illustration.
 Durability—Indestructible steel.
 Finish, dull, lasting quality.
 Flush top inkwell, noiseless, removable.
 Box or sliding drawer.
 May be used on either side.
 Nothing to catch dirt.
 Pencil groove on top.
- 18.

COLUMBIA SCHOL CO.

MOORE BROTHERS ~ PROPRIETORS

314-344 WEST 172 St. INDIANAPOLIS



COLUMBIA INDESTRUCTO TAB-LET ARM CHAIR AT \$4.25. WITH PERFORATED SHEET STEEL BOOK SHELF 25c EXTRA



THE "ARLO" ADJUSTABLE PEDESTAL DESK

The "Arlo" Adjustable Pedestal Desk is our latest contribution to modern hygienic school room seating. A beautiful desk, both in design and finish, it is absolutely sanitary exceedingly well adapted to the varying needs of any classroom and guaranteed to withstand the strenuous requirements of every type of class room service.

The pedestal is made of semi-steel, constructed to give greatest strength at the points of greatest strain. The broad, massive base is cup shaped and when screwed to the floor will never pull loose.

The "Arlo" Adjustable Pedestal Desk will last a lifetime; has steel sides and back and the top is made from maple or birch, finished in Arlo Brown (American Walnut).

Adjustments are simple and easily made. Book box chair seat are independently adjustable. This is a distinctive feature and makes it possible to adjust "Arlo" desks to meet the individual requirements of each pupil.

The "Arlo" Line includes The Arlo Adjustable Pedestal Desk with Study Desk, The Arlo Non-Adjustable Pedestal Desk and the Arlo Pedestal Tablet Arm Chair.

Descriptive literature and prices on request.

Arlington Seating Company

Office and Factory

Arlington Heights, Ill.

Flexibility of adjustments assures each pupil being properly fitted, insuring correct posture and real comfort.

Put the Guaranteed

LITTLE GIANT

to Work in Your School



Price \$32.50

The Little Giant is a modern hygienic device that should be in every school. Put this accepted aristocrat of blackboard eraser cleaners to work in your school under our guarantee of satisfaction. in thousands of schools throughout the country. It has proved to be efficient, in all respects, noiseless, dustless, simple and swift in its operation. It is guaranteed to clean blackboard erasers to your entire satisfaction — or your money will be refunded. The Little Giant is operated by a Universal motor, adapted to all electric currents; it is provided with nine feet of Underwriters' lamp cord with Universal plug ready to attach to any convenient lamp socket. Strongly made of mal-

HE Little Giant has been tested by continuous use

cel post.

Address Dept. S

JAMES LYNN CO.,
14 E. Jackson Blvd., Chicago

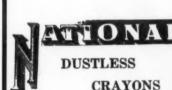
leable iron and aluminum, its

weight is but eight pounds

and it can be shipped by par-

THE LITTLE GIANT ELECTRIC ERASER CLEANER

Silent - Swift - Dustless - Simple - Inexpensive



are truly Crayons of Character



Free of grit from tip to tip NATIONAL CRAY-ONS respond perfectly to every stroke.

Being uniform in strength, every piece of NATIONAL CRAYON will withstand a firm grip of the fingers without danger of breaking or crumbling.

The dustless feature, combined with uniformity in all other respects, makes NATIONAL the ideal crayon for the classroom.

Your regular school supply dealer can serve you. If not, write direct.



THE NATIONAL CRAYON CO.
West Chester Pa.



100 · YEARS · OF · MANUFACTURING



Heywood-Wakefield Seats Add to Student Comfort and Schoolroom Capacity

Nowadays, school capacity is taxed to the utmost. Floor space is valuable, yet student comfort and health must be safeguarded.

The scientific designing of seats to fit the needs of both scholar and school is a matter of experience. Heywood-Wakefield has been building seats for 100 years.

Our school-seating experts are able to give you valuable advice from both engineering and hygienic viewpoints. This consulting advice is free through any H-W Warehouse.



HEYWOOD-WAKEFIELD WAREHOUSES

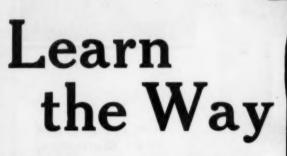
Baltimore, Maryland

113 West Conway Street
Boston 45, Mass.

Bisplay Floor, 174 Portland Street
Buffalo, New York
Chicago, Illinois
Chica

Mail Coupon

Get facts which every school board member should have.



to increase class room efficiency — gain greater success from teachers' efforts. Mail the coupon for important data.

See just how schools and universities everywhere are using this remarkable new aid to visual methods of instruction. How by focusing pupils' attention on subjects under discussion, a keener perception of the subject is awakened, concentration developed, teachers' efforts rewarded with greater success, and classroom efficiency heightened greatly. The coupon brings complete information which every school board member should have. Clip it now.

A Definite Need

With ordinary methods of instruc-tion the attention of pupils is often scattered about the class room. Objects in and outside the room catch the eye. Minds are distracted. Pu-pils' thoughts are divided between the subject under discussion and objects not connected with class objects not connected with class room activities. Interest lags. Teachers' time is lost in the endeavor to compel attention. Class room efficiency is reduced. And often the efficiency of whole schools is thus impaired.



New Method Holds Interest

Now there is a new method of instruction. A method used by universities and many high schools everywhere. With this new method all illustrations pertaining to subjects to be discussed are mounted on a single compact fixture composed of a number of wings swung vertically on a central pivot. As points are discussed, illustrations are easily swung into view by the teacher. All attention is concentrated upon a few square feet of space. And yet these few square feet give a display area equivalent to all of the blackboard space in the room. Because display area is thus multipled, these fixtures are called Multiplex Educational Display Fixtures.

Amazing Results

Wherever employed, Multiplex Equipment focuses pupils' attention on the subject being discussed. It compels attention. Thus it avoids distraction. It develops concentration and awakens a keener perception and appreciation of the subject. Teachers' efforts are rewarded with amazing success. The efficiency of many class rooms is thus increased. In addition to affording a remarkable aid to class room instruction, Multiplex Equipment is ideally suited to general display purposes.

Used Everywhere

Let us send you our catalog and price list, with interesting information about how hundreds of schools and universities are improving class room efficiency and securing amazing results from teachers' efforts with Multiplex Equipment. Use the coupon. No obligation is attached to your request. We only want to give you the facts which every school board member should have on matters of educational interest. Tear out the coupon now.

TEAR OUT COUPON NOW

Multiplex Display Fixture (Company St. Louis, Mo. MULTIPLEX
instruction with Multiplex Edu	ike to know more about the new method of ucational Display Equipment. Tell me what are using it and how. Give me complete
Name	
Address	
City	State

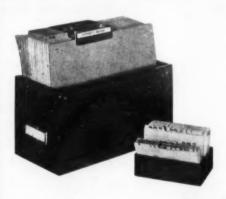
.. more time for creative work

81	ubject	1993	200	93			100	in i	689		1953	8	ubjec	t Ta	oher	San	83	30	4.0	957	-38	10000000
C	urse	180	38	193			Gr	ade			2/3	100		Se	salen	Reor	n Te	cher	100			SEX SECTION
D	áto	Mon	Time	Wad	Thu	Fei	Mon	Yee	Wed	The	Fri	Mon	Tue	Wed	Thu	Fei	Mon	Two	Wed	The	Fei	Total -
	1 80.		M.	99				1				100	× -	012		1			38			
5	2 Mo.				0						3	79		100		19:	135	-		3		
E51	3 Mo.	30	2	35			(15)				. 2		40					136				
4	4 Ma.	-		12									82									A The Street of
2	& Mo.	23		100			齫		6				8	30			200			13	3	Section 1
3	Exam.	8	30	165	100	95	20	103	100	100	No.	133	.00			070	O L	This	100			THE STREET
	Total	3	100			23								313	1	163	250	333	531			15.000 E3
ŝ	8 Mo.	12		-			1	200		336									10			
3	I Mo.			100	36,	-10	5			5	353	20	3	333					100			50880
9	S'Mo.	1	1	100	30				(3)					20	10		28	1000	1	3	1	Walter S.
4	9 Mo.		383	12	100		58	is	153	377		30		100		100				1		THE STATE OF
0	16 No.	100	1		fo.	20	1	(10)	100	33	45	133	8	120	NO.	1	3 3	10	13.0	100	200	9-16-52
960	Exam.	35	15	1	-	-		9.	100	3	37	500	200	Trans.		3	914			913		35 8 10 15
ä	Total	100	100	00		5,10	-3	13	-	100	-50	1						ES.				Part of the last o

Keep records on National Forms, File them in "Skyscraper" equipment, Protect them in Executive Safes.



MUSKEGON, MICHIGAN





A practical way to teach the care of office records--

WITH a "Y and E" practice outfit like the one above, the student classifies, indexes and files actual records.

"Y and E" laboratory equipment is natural size, yet arranged so compactly that it requires little storage space. Each student operates his own individual file.

Mail the coupon for full information.

YAWMAN AND El School Service Dept.		, Rochester, No	ew York
Please send me full Text for teaching Fi		your Practice	Equipment and
NAME	******		
CITY			
SCHOOL		STATE	

Stands Out in Comparison



This trade mark on the back of each genuine piece

The standard by which all others are judged ... for forty years Old Reliable Hyloplate has stood out in comparison. In the last 30 years more than 42,000,000 square feet of Hyloplate have been sold. Used in schools throughout the United States, and in 22 foreign countries, there is more Hyloplate in service today than all other manufactured blackboards combined.

Hyloplate is universally accepted for its economy and unrivaled high quality. It will

not warp, chip, crack or break. Its velvet writing surface... hard, close-grained and smooth ... is famous the world over. The oldest of all manufactured blackboard...Old Reliable Hyloplate, in its 41st year, is still the leader. Produced by the world's largest manufacturers of blackboard, fully guaranteed by them, and the distributor who sells it, to last 10 years or more. Easy to install... in black or green. The genuine always has the trade mark on the back. Write for catalog 12-H, to obtain sample and facts.



Geographical Globes

W. C. Globes are specially adapted for school use . . . on desk or table, or hung from ceiling. For 45 years unexcelled in mechanical construction. Imported lithographed maps. Color guaranteed not to fade. Hour circle on each to indicate the time anywhere in the world. 30 styles and sizes. Write for catalog 12 G.



Alpha Dustless Crayon

Patented 57 years ago. Uniform high quality, made of high-grade imported materials in a special factory . . . no soap, grease or other ingredients harmful to black-boards used. Durable, dustless, sanitary, writes clean and clear. Extra strong. In "hard," "medium," and "soft." Very economical. Write for catalog 12 A.



(patented)

Costello Double-Sewed Eraser

Sanitary, easy to keep clean. Reinforced back prevents curling up, spreading, or breaking down in use. No "pockets" between felts for dust to enter. Nothing but felt used in its construction. Noiseless. Works better, lasts longer. Chosen by school boards everywhere. Guaranteed perfect. Write for catalog 12 E.



Bacon Standard Wall Maps

Larger than others at same prices. Lithographed in 9 colors. Machine mounted on heavy cloth backing. Engraved to allow a larger map of each country, revised to time of issuing edition. Detail clear and clean. Show comparative time, steamship routes with distances, heights of mountain peaks, and principal railroads. Better, but cost less. 48 x 41—U. S., Europe, Asia, E. & W. Hemispheres, World No. America, So. America, Africa. Write for catalog 12 B.

Weber Costello Co. Chicago Heights



MAXWELL'S WINDOW SHADES Are DEPENDABLE Shades

Window Shades of Every Description Made to Order

The AIRANLITE Double Roll Shade

MOUNTED ON PATENTED BRACKETS IS THE PERFECT SCHOOL SHADE.

It gives a correct and scientific diffusion of light and permits window ventilation.

It is easy to adjust and cannot get out of order-is strong and durable-good looking and well made. AIRANLITE Double Roll Shades can be made of

any standard shade cloth or of canvas.

For school shades our special woven tan colored canvas is recommended.

The Patented Adjustable Light Stop does away with streaks of light between rollers and the patented brackets hold shades in perfect align-ment, giving the appearance on the outside, of being one continuous shade.

For Long and Satisfactory Service Use AIRANLITE DOUBLE ROLL SHADES

(Name is Copyrighted, U. S. Patent Office) They Increase the Efficiency and Improve the Health of Teachers and Pupils.

Write for Prices and Catalog.

S. A. MAXWELL & CO., Inc.

ESTABLISHED 1851 NEW YORK PITTSBURGH

CHICAGO

KANSAS CITY

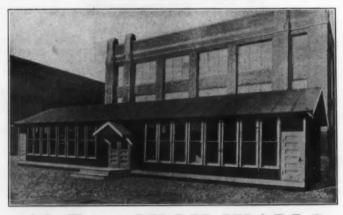
CHICAGO ADDRESS-3636 IRON ST.



Users of double roll shades are cautioned against infringements and imitations, as the AIRANLITE Patented Double Roll Shade is fully protected by U. S. Patents.

Be sure you get AIRANLITE Double Roll Shades mounted on AIRANLITE Patented Brackets.

MEM GOLD BOND **PORTABLE SCHOOLS**



12 Foot HIGH WALLS

Flat Ceilings. Interior Walls and Ceilings Sheet Rock Plasterboard.

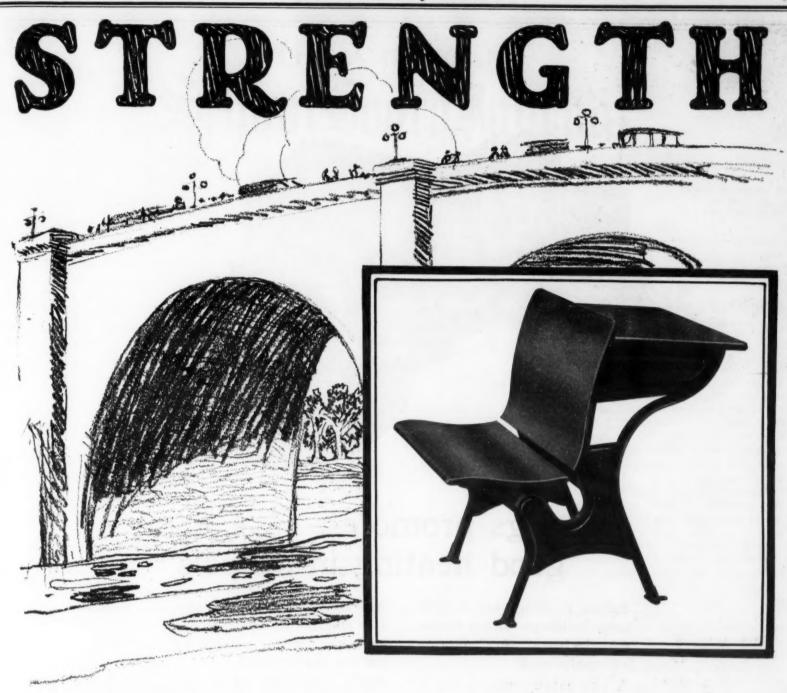
Buildings Comply With All State Requirements Built Complete at Our Factory.

Your Janitor with 4 Common Laborers and our Illustrated Instructions can erect them.

ENTIRE SATISFACTION GUARANTEED Write for Catalog and Delivered Prices

MERSHON & MORLEY COMPANY Established 1898 SAGINAW, MICH.

Your Story in Pictures Leaves Nothing Untold The Speed and Accuracy of an Arrow Your product and selling points portrayed in pictures arrive in the reader's mind instantly and unmistakably; where words most often miss the mark. PREMIER ENGRAVING COMPANY 814 WINNERAGO ST.



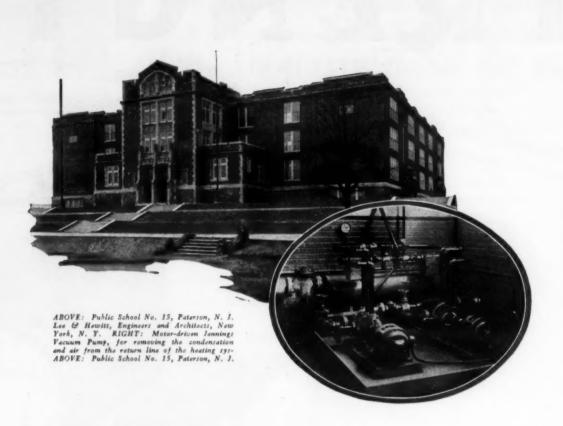
When you buy Steel Furniture Company seating, you get STRENGTH far in excess of every normal requirement that the years will bring. Strength, first, in basic materials—steel of exceptional toughness—seasoned woods especially selected for hardness and grain.

Strength, also in design. Weights and strains scientifically calculated and carefully balanced. Reinforcements developed by years of practical experiments and tests. Steel seats are permanently rigid, permanently firm and vibrationless.

Strength, brought to its highest development in superior workmanship. Justly famous Grand Rapids character and quality in every detail. Enduring finish, lasting beauty.

The Steel catalog will interest you. You ought to see it before you decide on seating for any classroom or auditorium use. Write today for a copy.

STEEL FURNITURE CO. GRAND RAPIDS, MICHIGAN



Jennings promote good heating in schools

School buildings are usually large buildings. Many rooms must be heated. And all heated equally well.

A condition calling for a

Jennings Vacuum Heating Pump. For, by creating and maintaining a vacuum throughout the return line, the Jennings promotes unrestricted

steam circulation. Each radiator receives its share of the heat—the farthest as well as the one nearest the boiler.

Public School No. 15, Pater-

son, N. J., is one of many thousands of school buildings where Jennings Pumps are depended on for promoting better heating.



Write for these Bulletins. They completely describe the several Jennings Heating Pumps—their construction, method of operation, and the superior service they always give in heating

THE NASH ENGINEERING COMPANY

So. Norwalk

Connecticut

Atlanta, Birmingham, Boston, Buffalo, Chattanooga, Chicago, Cleveland, Dallas, Denver, Detroit, Indianapolis, Kansas City, Mcmphis, Miami, Minneapolis, New Or-



leans, New York, Omaha, Philadelphia, Pittaburgh, Portland, Richmond, St. Louis, Salt Lake City, San Francisco, Seattle, Tampa, Washington, D. C.

OFFICES IN CANADA: Montreal, Toronto and Vancouver.

Jennings Pumps
RETURN LINE AND AIR LINE VACUUM PUMPS CONDENSATION AND CIRCULATING PUMPS

School Board Journal

A Periodical of School Administration

Frank Bruce, Publisher John J. Krill, Business Manager Frank O. Dunning, Jr., Eastern Manager

Published on the first day of the month by

THE BRUCE PUBLISHING COMPANY

354 Milwaukee St., Milwaukee, Wis.

Eastern Advertising Office: 50 Church St., New York, N. Y.

Volume '	í	3
----------	---	---

December, 1926

No. 6

Teacher Sick Benefit Funds	36
Possibilities and Potentialities in Measuring the Work of a Principal	37
The Organization and Administration of Education at Racine, Wis	39
The Small Town Superintendent	10
By a Former Small Town Superintendent	1
M. S. Olson	13
	14
Harlan C. Hines	15
	16
A Code System for School Accounts	
New Scotia High School, Scotia, N. Y	
The Aurora Community Grade School	
The New Health School in Washington	3
The Robbinsville School, Robbinsville, N. J	5
Checking Up on Heating	6
A Soldier Teaches School: A Peacevale School Story	7
	69
	51
Homer P. Rainey Oh God, Grant Us Understanding	33
EDITORIAL:	
Local School Boards and State Legislatures 6	34
Surplus or Shortage of Teachers—Which?	34
Purchasing School Supplies and Equipment	34
The Dedication of New School Buildings	35
The Genius of Modern School Architecture	35
The Campaign Against Vandalism on School Premises 6	35
The All-Year School Wins. 6	36
A Plea for a Science of Education	
School Finance and Taxation	
Building News of the Schools	
Administration Notes 80 Teachers and Administration	
The St. Louis Lunchroom System	36
Important School Bond Sales of the Past Month	96
School Law 9	39
Washington Correspondence)()
A. C. Monahan Personal News of Superintendents 106 Policies in Operating a School Lunchroom. 11	11
Schoolhouse Dedications	11
Automobiles and Schools in California108 Hygiene and Sanitation11	
Association Elections	
Chicago Correspondence	21
Don C Possers	
An Interesting School Board Convention—The Illinois Delegates Meet at Belleville12	22
Book Reviews	98
New Publications	08



The Come and Go of Life

New Year

The milestones of life cause us to become reflective. We stop to contemplate the distance we have traveled and to conjecture the immediate prospects. We may look back with pain or with pleasure, and look forward with helplessness or hopefulness.

The New Year is the biggest milestone in the path of life. It not only marks the flight of time, but it suggests readjustments, inventories, and resolutions. It suggests a review of the route that is behind us, and the formulation of a new budget of conduct, of innovation, and of departures for the life that is still before us. The past must provide the inspiration for the future.

In looking over the files of the American School Board Journal for the past year, we become amazed at the contribution that many minds and many hearts have made through the medium of school administration towards the welfare of mankind. The rising generation may indeed rejoice when it contemplates the splendid array of American men and women who are concerned in their progress and their happiness

There is the schoolroom personnel and there are the administrators. They contribute the best thought of the day to the literature that gives direction and momentum to the training for American citizenship.

If we can justly rejoice over what our labor has accomplished, then, too, we must approach the task of a New Year with new resolutions, new inspiration, and new ambition to render a better, higher, and nobler service. There must be the unflinching determination to contribute our share of the world's work, to add our mite to the sum of human happiness.

WILLIAM GEORGE BRUCE, Editor.



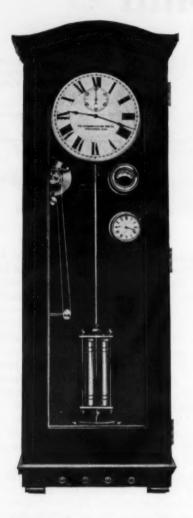
Copyright, 1926, by the Bruce Publishing Company. All rights reserved. Title registered as Trade Mark in the United States Patent Office. Entered as Second Class Mail Matter in the Post Office at Milwaukee under Act of Congress of March 3, 1879.

Subscriptions—In the United States and possessions, \$3.00 per year. In Canada \$3.50. In foreign countries \$4.00. Single copies, not more than three months old, 35 cents: more than three months old, 50 cents. Sample copies, 35 cents. No orders accepted for volumes dating back more than five years. Back copies more than one year old, not available.

more than three months old, 50 cents. Sample copies, 30 cents. No orders accepted to the description office in Milwaukee, at least fifteen days before date of expiration. Notice of changes Discontinuances—Notice of discontinuances—Notice of discontinuances—Notice of subscriptions must reach the Publication office in Milwaukee, at least fifteen days before date of expiration. Notice of changes of address should invariably include the old as well as the new address. Complaints of non-receipt of subscribers' copies cannot be honored unless made within fifteen days after date of issue.

Editorial Material—Manuscripts and photographs bearing on school administration, superintendence, school architecture and related topics are solicited and will be paid for Editorial Material—Manuscripts and photographs bearing on school administration, superintendence, school architecture and related topics are solicited and will be paid for publication. Contributions should be mailed to Milwaukee direct, and should be accompanied by stamps for return, if unavailable. Open letters to the editor must in all cases contain the name and address of the writer, not necessarily for publication, but as evidence of good faith.

-RESULTS-



That is what the school Official and Architect must have. They spend the tax-payer's money and an enlightened public opinion will not tolerate waste on experiments.

School equipment must give results—good results — today, or cast doubt upon the judgment of the Officials who selected it.

For nearly half a century Standard Electric Time has been giving schools a dependdable, efficient time and automatic program service. In recent years, equally reliable fire alarm and telephone service has been added.

The School Official or Architect who chooses Standard equipment knows that he is acting wisely and that his school will receive the best possible Time, Fire Alarm and Telephone Service.

There is a lasting satisfaction in recommending "Standard" equipment.

There is a Standard Sales-Service Branch within easy reach, where you can secure, gratis, specifications, prices or other information. Avail yourself of this expert service.



OVERBROOK SR. HIGH SCHOOL, PHILADELPHIA, PA. ONE OF 30 SCHOOLS AND COLLEGES IN PHILADELPHIA EQUIPPED WITH STANDARD ELECTRIC TIME.

THE STANDARD ELECTRIC TIME COMPANY, Springfield, Mass.

THE STANDARD ELECTRIC TIME COMPANY OF CANADA, LTD., Montreal, Quebec.

BRANCHES

COLUMBUS—407 First Natl. Bank Bldg. DALLAS—717 Mercantile Bank Bldg. DENVER—562 Penn St. KANSAS CITY, MO.—Mutual Bldg. LOS ANGELES—1244 Innes Ave. MINNEAPOLIS—745 McKnight Bldg. MONTREAL—94 St. Felix St. NEW YORK—50 Church St. PHILADELPHIA—1725 Sansom St. SAN FRANCISCO—690 Market St. SCRANTON—148 Adams Ave.

BALTIMORE—1428 Munsey Bldg. BIRMINGHAM—448 Brown-Marx Bldg. BOSTON—10 High St. BUFFALO—901 Mutual Life Bldg. CHICAGO—1510 Monadnock Bldg.

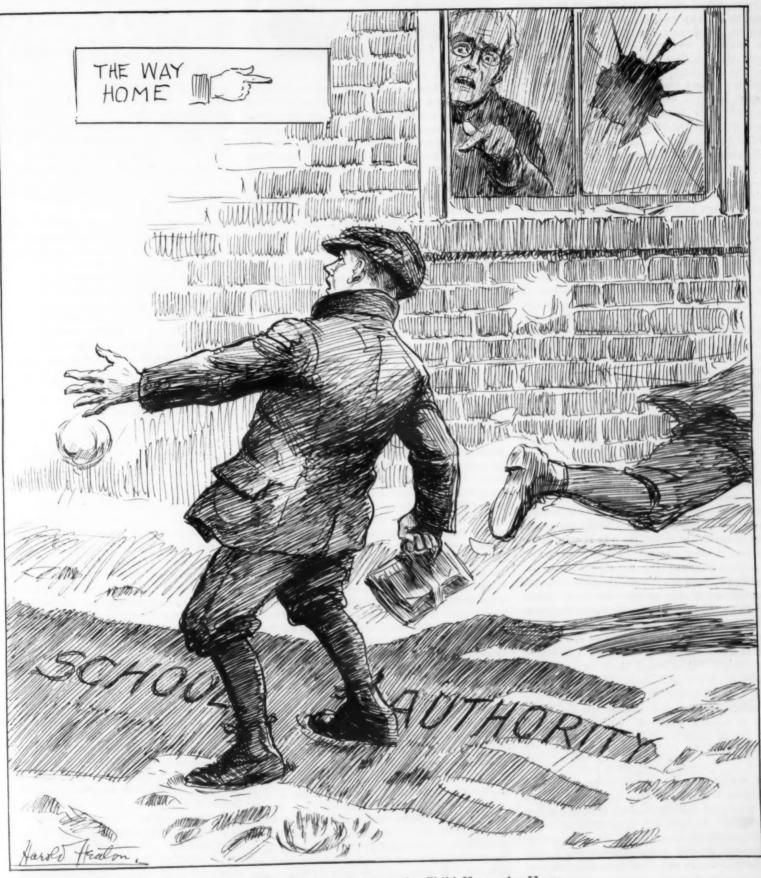
THE AMERICAN Sthool Board Journal

Founded March, 1891, by WILLIAM GEORGE BRUCE

Volume LXXIII, No. 6

DECEMBER, 1926

Subscription, \$3.00 the Year



The School's Authority Follows the Child Up to the Home.

Teacher Sick Benefit Funds

John C. Rossman, Assistant Superintendent of Schools, Gary, Ind.

Almost any school administrator can match out of his experience the case of Teacher A, who, for a period of ten years has taught without missing a day. Unexpectedly she is forced to be absent either because of quarantine or accident for a period of six weeks. She incurs heavy medical and hospital expense. The local board of education provides sick leave for ten days each year. Even under a liberal interpretation of its regulation it cannot reward this teacher for her past faithful attendance upon her duties.

Some school administrators have met with Teacher B, who probably represents the other extreme. Each year she takes such days off as are necessary, and very late in the year completes her ten days' leave on the assumption that she has them "coming" to her. She does this year in and year out, and upon several occasions has even called the clerk in charge of the sick leave records to ascertain just how many days she has been out during the current year.

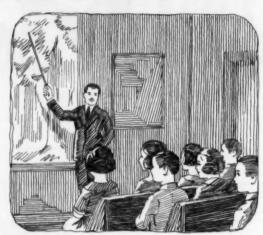
Teachers C and D are sisters, assigned to different elementary buildings in the same system. On a particular Monday both call for substitutes because of "severe colds." Both are seen together in a down-town store during the day. The next day both return to their respective schools and both fail to notify the office supplying substitutes that they expect to return.

Under the regulations in that particular school city this compels them to forfeit the half day's salary. Both immediately become ill again, leave their respective buildings, and return on Wednesday morning after due notice. When they send in their claims for sick benefits, both ask for two full days and present the necessary doctor's certificate.

Teacher E, a widow with several dependents, because of economic necessity feels compelled to go to school, meet her classes, and carry on her program as best she can day after day, when the best interests of all and particularly her own physical welfare would demand that she be at home regaining her strength.

Disturbing Problems

Many similar examples might be cited, indicating problems arising in connection with the administration of any "Sick Teachers' Benefit" program. Throughout the United States the great majority of school boards recognize the fact that teachers are subject to illness and absence from duty the same as other workers and. accordingly, have made some provision for payment of salary during the period of illness. Plans vary widely and many different conditioning factors are to be found. In practically all cases, however, the same problems are still before boards of education and their administrative officers. How many days of sick leave should be allowed each teacher each year on full pay? Can the school organization by more careful selection of teachers reduce the number of days of teacher absence? What provision, if any, can be made for the teacher who has been present every day for several years and then is forced by illness to be out for a month or two? How shall a program be instituted which will not place a premium upon the teacher taking the maximum number of days even when it is not needed? In what way may teachers who are not physically fit to return to the classroom be encouraged to rest and recuperate until they are fully fit? In any case, how may the program be administered so that it is satisfactory to the teachers themselves and at the same time not a stumbling block to administrators?



The Plan in Gary

In Gary, Indiana, there has been devised and operated for a period of years a "Teachers' Sick Benefit" plan which possesses some very desirable characteristics. It is administered by the teachers themselves. It makes provision for cumulative benefits. It removes to some extent the desire to take the days "coming" to the teacher. After a number of years it may be made possible for a deserving teacher to remain away from the classroom until she has fully recovered from a long illness. It particularly penalizes all teachers if the use of the fund is abused.

The first step in the plan is an effort to conserve the fund by careful selection of teachers at the time of entry into the local service. Many states and cities, either by legal enactment or local ruling, require that teachers submit a health certificate setting forth that the teacher is free from contagious disease, is non-tubercular, has been successfully vaccinated against smallpox or is a satisfactory health risk in other particulars. In too many cases this health certificate becomes a matter of form, easily obtained and meaningless. In almost all fields of industry far more attention is paid to this preliminary health examination and its follow up. Following the lead of industry and with the idea of promoting greater efficiency in its teaching corps, the medical inspection department devised a form which must be submitted and approved by this department before a contract can be closed. The form itself follows very closely that used by insurance companies. When a teacher entering the Gary schools for the first time is notified of her election, such a medical form is enclosed. She fills in the first portion of it and then goes to a physician of her selection. This physician makes the necessasry examination, signs the form, identifies himself as a regularly licensed physician, and sends the form directly to the medical department of the Gary schools.

Some very interesting and worthwhile results have grown out of this. About five per cent of the persons offered contracts have been unable to present certificates satisfactory to the medical department. In not a few instances teachers have been accepted but have had pointed out to them certain deficiencies or handicans which they have rather easily been able to eliminate but of which they first learned only as a result of this examination. Only recently one of our largest universities recommended very highly one of its post-graduates for a supervisory position. She was offered the position but eventually notified the department making the offer that she was unable to accept. Later it was learned that she had gone to three different physicians and in each case was told that a complete rest for at least a year was imperative if she wished to avoid a serious breakdown. Not only does the

school city profit by this preliminary examination, but frequently the individual gains much.

At the present time annual physical examinations are not required of teachers, but the medical department urges all to avail themselves of its services gratuitously.

Gary Teachers' Sick Benefit Fund

The board of education appropriates annually for the "Teachers' Sick Benefit" fund a sum equal to thirty dollars for each teacher employed. Out of this fund are paid the salaries of substitute teachers taking the place of teachers absent on account of personal illness or death in the immediate family. The fund is administered by a committee of teachers consisting of one representative from each school building. This committee meets regularly and passes upon the claims of its fellows. The entire administration of the fund is in its hands, subject to a regular audit and accounting to the superintendent.

The general practice is about as follows: Approved absences will probably be paid in full up to ten days each year. If a teacher does not use all of the ten days during any one year or any number of years, the surplus will accumulate year after year for her benefit. Thus a teacher who does not receive any pay for absence the first year and only five days the second year can receive a maximum of 25 days the third year.

Should the fund not be sufficient to pay all legitimate claims on the basis of ten days per year average, then the ten days must be reduced to nine, eight, or whatever number the fund will finance. Should there be a surplus at the end of the year, such surplus will be re-appropriated for the following year in addition to the regular thirty dollars per teacher. A reserve is thus created to protect the ten day average payments during periods of exceptional absence. The administrative committee approves current payments only on the basis of five days yearly average. The final settlement up to ten days, if possible, is made at the end of the year when all absences are known.

Should the fund be sufficient to pay for ten days absence the first year, only six days the second year, and nine days the third year, a third year teacher paid for five days' absence the second year could draw her regular salary for only twenty days' absence the third year.

The "Gary Teachers' Sick Benefit Fund" is intended to provide teachers with their regular income not only during a reasonable amount of absence for short periods but also for long periods of severe illness. Five years' experience in Gary indicates that such a fund wisely administered will provide for all cases of legitimate absences regardless of length.

The whole program is based on the assumption that a teacher needs her salary during a long period of illness much more than she does during an absence of one, two, or three days. Such protection for real emergencies cannot, however, be secured if at the same time the fund be wasted by employing substitutes for teachers absent without good cause. Abuses of the fund can be prevented if each teacher understands that when any unworthy teacher receives pay from the fund that some other teacher, probably herself, will not receive her own salary when in dire need. By administering the fund themselves the teachers can keep such abuses to a minimum. In theory as well as in practice the program outlined possesses weak points: Teachers, in some few instances continue to abuse it; money undeserved is at times paid out. But by-and-large the whole scheme as administered by the teachers themselves is doing much to meet their needs and doing it happily.

Possibilities and Potentialities in Measuring the Work of a Principal1

S. A. Courtis, Educational Consultant, Detroit Public Schools

It always gives a measurement man a special thrill to discuss measurement problems before a group who have proved by their labors and devotion that they believe measurement is an effective tool for an administrator to use on himself. There are plenty in the world who believe in measurement, for the other fellow, but only a few so scientifically minded that they habitually base their actions on a systematic collection of measured facts, and as habitually appraise the effect of their actions by measurement. Yet, there is no other road to progress equally effective and equally available to the average man at present.

The measurement of the work of a principal is a problem presenting many difficulties. It is a large problem because the directing genius of a modern elementary school is called upon to engage in many diverse activities. It is an important problem because poor management can almost completely nullify the effect of fine buildings, modern equipment, and able teachers. The character of the emotional currents that run to and from a principal's office determine whether the atmosphere in that building is to be that of heaven or hell. Mighty little effective teaching is ever done by those who live in a seething inferno of rumors, conflicts, jealousies, humiliations, and bitter disappointments. For the good of the profession there should be standards and tests by which merit may be discovered and rewarded, by which incompetency may be brought to light.

Aspects of the Measuring Problem

At the very outset of my talk, however, let me differentiate sharply between two aspects of the major problem. That is, between measuring the work of a principal and evaluating the same in terms of merit. Measurement aids evaluation, but measurement is, or should be, always, merely impersonal, objective, precise description. The activity of measurement consists simply of comparing some quantity with a standard quantity of the same kind arbitrarily selected as a unit. Measurement yields facts, but no merit attaches to facts, except as the individual already has a basis of judgment of merit and makes inferences accordingly.

The determination of worth should be called by a different name. I suggest the term evaluation. It always consists of the comparison of a result with a desired result, and the product is a judgment that the result is good or bad, according to whether it is or is not the result desired. Change the desire and you automatically change the merit rating although the fact remains the same.

An illustration may serve to make this plain. Two principals visit a teacher for the purpose of seeing whether or not they will try to secure her services for their building. Let us suppose that one of the principals believes in military discipline, rigid drill, and teacher activity, and that the other believes in self direction, self appraisal, self control, and child activity. Both measure the teacher's work and both secure exactly the same result. "Did you see the way those children moved around the room and talked to each other as they pleased?" says one. "I wouldn't have a teacher like that in my building. If I had my way she'd lose her certificate on the "You're absolutely wrong," says the principal. "That was almost ideal I consider that the best teaching I have even seen. I wish all the teachers in my building were equally capable." The evaluation of the teacher's work led to exactly opposite results; the measurement to exactly the same results. Evaluation and measurement are often

confused, particularly as measurement is usually employed to secure the basic data on which to base evaluation. To one who has recognized the distinction, a principal's rating of teachers becomes a standard test for the merit standards of principals. Give me for teachers whose work I have seen, their ratings by a principal, and I can tell you very much about the ideals and ability of the principal. Evaluation inevitably measures the standards of merit of the person making the evaluation. Measurement is relatively easy, evaluation much more difficult. For progress there must be both measurement and evaluation, so we need to consider both.

Evaluation may be defined as the determination of merit, and the basic problem is the definition of the standard of merit. A great many years ago a celebrated philosopher of Greece pointed out that that is good which fulfills its function. In other words, purpose is the factor which fixes merit. If I wish to travel to New York by night, the Detroiter is a good train to take, but if I hate riding in sleepers at night it is a very bad train. When we say "This is a we are a little more general in our good day." estimate. What we really mean is that the day is good for most of the purposes for which days are used. But the finer the day the longer the face of the proprietor of a rubber and umbrella store. A good day for him is a rainy day. When we evaluate in terms of goodness or badness, we must always ask "good for what or for whom?" A good principal is one who fulfills well the function of a principal, but we are not all agreed on what the function of a principal's job is. I have known of principals whose conception of their task was to make it contribute to their bank account. If now we measure the activities of a principal and find that two hours a day of school time are devoted to real estate business, our evaluation of this fact as good or bad will depend upon our conception of what the principal is for.

Criteria of Judgment in Measuring Work Unfortunately we seldom formulate our ulti-

mate objectives definitely enough to be able to use them as criteria of judgment except in the most general way. Further, in education, the effects we aim to produce are so complex, and are matured so slowly, that final measurement of success can be made only many years after effort. Between kindergarten and mature adult life there is a span of 25 years, and where is the genius who is able to unsnarl the tangled threads of nature and nurture to determine the relative influence of heredity, home, school, society, and state, and to allot to each its proportionate weight? Instead we resort to a futile expedient. We rate merit in terms of immediate conditions of structure and equipment.

"Good" means "judged to contribute to functioning." For instance, we see a large, fine appearing, upstanding man, with bright eyes that look you squarely in the face, a firm vigorous handshake, and a friendly manner. We learn he is a principal, and we say, "It must be wonderful to have such a man for a principal, meaning that the qualities we see are judged to be desirable qualities in the type of principal we have set up as our ideal. We believe that size, appearance, and manner contribute to making a principal's work effective.

But suppose we find that the man is all "front," as the boys say. Suppose that size, appearance and manner are the sum total of his educational capital; that throughout his life the man has depended upon these seeming excellencies to "get him by"; that the story of his life is a story of evasion of hard work, of shirking responsibility, of pretense and hypocrisy. Moreover, suppose we found that every large, fine appearing man was a similar swindle, which, thank goodness, is not true. Would not the time come when we would reverse our judgment and rate size, appearance, and manner as undesirable?

Similarly we tend to rate processes as efficient if they appear to result in immediate achievement in terms of a recognized goal. For instance, if the record at the central office shows that in the last hundred reports turned in by a certain principal, not one was late and not one was found to be incorrect in any particular, we are likely to judge the man to be an efficient principal. Promptness and accuracy we rate as virtues without proof of their effectiveness.

And so, in general, they are.

But, suppose we find that the school of this principal is a scene of conflict and confusion for the entire week before any report is turned in, that teachers are taken from classes and set to work checking, copying, and rewriting the reports to such a degree that both children and teachers suffer. Suppose further, that the principal does not care a snap of his finger for either promptness or accuracy; that his real desire is simply to make a showing and win an enviable reputation for himself. Might we not conclude his apparent efficiency is too dearly bought?

The Determination of Merit

So it goes! It is very difficult to determine merit, for merit really has three dimensions. The first is the desire which prompts the activity being evaluated, the purpose for which it is carried on. Now the dictates of desire are absolute. We may array our facts on the basis of reason, but the weights to be attached to each fact are determined by our emotions, and each one feels differently about each situation. Consequently, for co-operation there must be conscious acceptance of some criterion as a standard of merit, and all judgments must be made in the same terms.

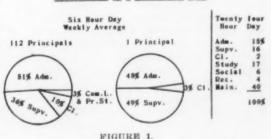
The second dimension is the immediate or apparent excellence of structure and equipment. Other things being equal, size, appearance, and manner, promptness and accuracy do contribute to success in a principal. Therefore, we need to measure in much detail how many of such desirable qualities a principal has.

However, there is a third consideration. We need to determine by careful control experimentation the actual contribution of structure and process to the achievement of the accepted ulti-

mate objective.

Perhaps an illustration may serve to make my meaning plain. Detroit principals to the number of 112 kept careful records of the ways they spent their time. This is impersonal objective measurement. If I say the weekly averages were 51 per cent of a six hour day for administration, 36 per cent for supervision, 10 per cent for clerical labor, and 3 per cent for professional study and community leadership, have I said anything about merit? This is pure, but exact, description. The figures are neither good nor bad without a basis of judgment. For instance, measurement by one principal gave for her 48 per cent for administration, 49 per

DISTRIBUTION OF A PRINCIPAL'S TIME



¹Address to the Michigan Association of Principals, November, 1926.

cent for supervision, and 3 per cent for clerical work. That is, measurement serves to make evident the fact that the distribution of this principal's time differs from the average distribution of time, but it does not tell whether this variation is good or bad. If now you tell me you believe in the responsible principal and that much more time should be given to supervision than to administration, then I can reply that this principal is varying from the average in the right direction. It is a "good" variation.

On the other hand, you may believe that supervision of teachers' work should form no part of administrative activities. Then we must both judge the variation to be a "bad" one.

However, I may ask for the evidence on which your conviction is based. How do you know that less supervisory activities will increase the efficiency with which the principal achieves the task you have adopted as the objective of his work? Unless you have objective evidence from scientific experimentation, the only answer you can make is "I believe so." But human convictions are often wrong and may be so in this

Whenever and wherever we raise the question of merit, at that point we must answer in terms of some standard, and the adoption of a standard is always, in the last analysis, a matter of arbitrary choice. Even in measurement the same rule holds. For instance, we may raise the question as to whether or not the school day of six hours is a proper basis for distribution of time. Certainly many principals do much of their work outside of school hours. Certainly, also, the 24 hour basis gives a very different picture of a principal's activities. Whether you adopt one or the other as the basis of measurement will depend upon an arbitrary choice by you in terms of your purposes and convictions.

Basic Problems in the Measurement of a Principal
Accordingly, from my point of view—notice the form of statement—from the point of view of my personal convictions, the basic problems in the measurement of a principal and his work are five in number.

 The Evaluation of the philosophies of life in order to select a standard of philosophy.

2. The Determination of each principal's philosophy in terms of the standard.

3. The exact Description of the structure and equipment of all principals and of the conditions under which they work.

 Measurement of efficiency of operation in terms of recognized, immediate objectives.

5. Evaluation of the results of all these measurements in terms of the effect adopted as the basis of judgment.

Accordingly my program for the measurement of a principal and his work has four divisions:

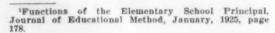
 The selection of an ultimate objective as a basic criterion for the judgment of merit.

2. The construction and use of measuring scales for each element of structure, equipment, and process.

The evaluation of the measured factors in terms of relative importance.

4. The evaluation of the same factors in the order of their relative importance and in terms of their contribution to the ultimate objective. I shall discuss each of these in some detail.

1. The basic activity is the selection of a criterion of judgment. I believe there should be a careful formulation by principals of the purposes for which they work. A part of this formulation would deal with educational objectives; a second part, with administrative objectives; a third part, with supervisory objectives; a fourth, with community objectives, and so on. For every angle of a principal's work there would be a clean-cut statement of the





CHARLES CARROLL,
President, Rhode Island Institute of Instruction,
Providence, R. I.

Providence, R. I.

Mr. Charles Carroll, deputy director of the Rhode Island State Board of Vocational Education, has been elected President of the Rhode Island Institute of Instruction, Mr. Carroll is a graduate of Brown and Harvard Universities and holds degrees given by the Harvard Law School and Harvard University. He has held such important positions as professor in the Rhode Island State College and the Rhode Island College of Education, director of vocational rehabilitation in the state, and professor of law and government in the Rhode Island College of Education.

cation.

As President of the Rhode Island Institute, Mr. Carroll will have under his direction the activities of the oldest state teachers' association in service, comprising a membership of more than three thousand school teachers, practically 99 per cent of whom are in Rhode Island.

result aimed at, and all possible conflicts be tween these objectives would be harmonized. Of course, the major objectives would be predetermined by the policies of the board of education and of the superintendent; that is, they would be if boards and superintendents ever formulated policies, or ever used them as guides to action. In education we frequently define immediate objectives. Sometimes we even define intermediate objectives, but farther than that we do not go. Yet objectives change. Dr. Spain has this afternoon called your attention to the changing conception of a principal as a community leader. This is not the only field in which objectives have changed. In fact, it is hard to find any aspect of a principal's work in which great changes have not taken place in the immediate as well as in the remote past. Changes are still taking place. The result is confusion, conflict. Some principals belong to the "old" school, some to the "new." The same is true of supervisors and district principals. If one is to have his merit determined by a superior officer, it is only fair to all concerned that full information in regard to purposes and objectives which form the standard of judgment be available to all. If changes take place, they should be officially expressed in an official statement of policies. It is manifestly unfair to judge a man's work in terms of objectives and purposes which he has never entertained.

Formulation of Objectives in Measurement Work

The formulation of objectives would serve as a guide no less than as a standard of judgment of merit. The success of the formulation would depend upon its objectivity. If it consisted of high sounding phrases—general, vague, intangible—it would be of little value. If it were definite, specific, practical, if it consisted of description in terms of observable behavior, of "items to observe" if you will, it would have tremendous potentialities for control and guidance.

The second division of the program is a relatively simple one to carry out but one that involves a large amount of labor. I have already referred to the study of the distribution of a principal's time. Similar studies would have

to be made of every detail of structure, equipment, and process, and for each there should be standards. To many principals this would seem to be the only practical aspect of my program and it is an essential detail. The basis of formulation would be consensus of opinion and practice; for until we have scales and measured results for each of such elements, there is little hope of doing more than guessing at the relationship between such standards and the ultimate goal. In the absence of knowledge one person's guess is as good as another's. However, the law of survival of the fittest operates here. so that in the long run the opinion or practice of the majority is usually a safer guide to follow than individual opinion. The danger is, of course, that adoption of consensus standards will operate to eliminate experimentation. This danger can be avoided by deliberately providing for experimental trial of varying standards.

That you may fully comprehend my meaning, I have listed a few, a very few, of the various types of items for which descriptive scales and standards need to be made. Some of these items are of trivial value, others are universally judged to be of great importance. Of course in any co-operative program, items would be selected in the order of importance so far as importance can be estimated in advance. Also if ten such scales were made and used, the resulting benefit would be great in spite of the fact that one hundred more might well be formulated.

PROGRAM

	Pessible	Items for Descriptive	Scales		
	Structure	Administration	Supervision		
	Intelligence Age	1. Condition of building	1. Direction of teachers		
	Temperament Social sense	2. Control of supplies	2. Adequacy of appraisal		
5.	Voice	3. Organisation 4. Discipline 5. Rating 6. Cooperation 7. Correspondence	3. Helpfulness to Pupils Teachers Parents 4. Objectives		
	Equipment	8. Leadership 9. Transmission In and Out	5. Leadership <u>Clerical</u>		
1.	Training	10. Placement and			
2.	Study	follow up	1. Telephone		
3.	Marriage		2. Reports		
4.	Pelitical		3. Transfers		
	affiliations		4. Requisitions		
8.	Weal th		5. Management		

FIGURE 2.

For instance, there are literally dozens of aspects of structure for which we need measuring scales and standards. For some, like intelligence, universally judged to be of importance, we have measuring instruments but no use is made of them and there are no standards. Whoever heard of a score in a standard intelligence test being used as one factor in the selection of a principal, and who knows what minimum degree of intelligence is essential for a principal's work? Yet, who can imagine a superintendent deliberately choosing an "unintelligent" teacher for a principal, except where the forces controlling the selection have been political, personal, or something else other than rational? Wouldn't it be the part of wisdom to substitute precise measurement of intelligence for crude estimates?

There are other aspects of structure, like age, which come already measured for us and for which we have crude "rule of thumb" standards but to the validation of which we have given little attention. Temperament and social sense represent a different type of item. We believe these are important, but we have taken no steps either to measure them or to formulate standards. Then there are details, like voice and dress, which appear on all our rating cards but which none of us ever take seriously.

Similarly for equipment, we readily acknowledge the importance of training, experience, and continued professional study, but have at present only the crudest of devices for measuring the same and only very crude standards. When we come to questions of whether a principal

(Continued on Page 135)

The Organization and Administration of Education at Racine, Wisconsin

A valuable statement of basic principles of school administration is made in the findings of a survey committee appointed to make a study of the school system at Racine, Wis. The study of the organization and functions of the school board was made by Prof. John G. Fowlkes of the University of Wisconsin, and takes up two phases of the subject, namely, the present and the proposed organization of the board of education and the duties of the superintendent of schools and of the secretary of the board of education. The report which is in part as follows, deserves the study of school board members:

In accordance with the statutory provision of Wisconsin, the administering body of regular full-time public education in Racine is a board of education consisting of seven members elected at large at the regular spring election for a term of three years. This board of education is the corporate body representing the constituency of the school district of the city of Racine. Unfortunately, the board of education in Racine is in a measure limited by being fiscally dependent upon the city council. This handicap, however, is imposed by the state law and such a condition cannot be changed until new legislation is passed. As is most desirable, the members of the board in Racine are not paid. This tends to attract a high type of citizen to board membership.

The board is divided into three standing committees—one on instruction, one on property, and one on finance. It is a well established principle of organization and administration that a small number of standing committees is desirable. The only three that may at all be justified are the three that the board of educa-

tion has adopted.

In the light of existing rules and regulations there seems to be some confusion as to the legitimate and proper function of the board of education. In respect to the reasons for the existence of a board of education, the following statement made by the president of a certain board of education in New Jersey, who is also chief executive officer of a large business corporation in New York City, may be pertinent.

Needed Changes in the Present Method of Conducting the Business of the Board of Education and Reasons Therefor

- 1. Eliminate standing committees. A city looks to the board of nine members to manage its schools. With standing committees, the board breaks itself up into several smaller boards, loses some of that unity of understanding on the part of the whole body which is so essential, scatters its energies, and wastes its time.
- 2. Systematize its business and give to its executive staff full responsibility for executive detail, and devote itself only to oversight and direction of all that is done.
- 3. Make the superintendent the executive officer, give him full powers and responsibilities and hold him strictly accountable for the successful conduct of all departments of the school system.
- Appoint the superintendent for a threeyear term,
- 5. With the superintendent's aid, define the functions of every member of the educational service.

The board should say to the superintendent:

"Everything to be done here is for one end, the education of the child. Everything you recommend we are going to ask you to justify in one way only—by showing that it is necessary to the running of a good school system. You are the expert whom we have put in charge of it, and we are going to see that you do your work and you are to keep fully informed and at all times convinced that the work is being

done as we wish it done, in as complete and effective manner as funds permit.

If you recommend new things, you must convince us that they are necessary. You will be held strictly accountable for every expenditure. We shall watch the results which you get with the utmost care."

6. The superintendent shall plan a policy of development and submit the same in great detail; the same to include a report on the school system as this, with recommendations as to what it should be. The board should study the report with great care and decide either for or against the policy laid down.

This procedure should be repeated at frequent intervals

- 7. The superintendent, as an expert in education, should convince the board by frequent reports thereon, that the schools are continually progressing in two respects particularly—in the efficiency of teachers and in the character of the training given to the children. The superintendent's business is to secure this progress; the board's duty is to see that he secures it and to give him ample powers with which to produce it.
- 8. If the board makes its executive officers take full responsibility for the proper workings of the school system, one regular meeting a month of the board will be ample to transact all its business.
- 9. Adjourned and special meetings may be called when needed.
- 10. Special committees will be appointed to investigate and report in writing to the board on matters that require very special attention.

The Proper Functions of a Board of Education

Members of a board of education are directors of a large corporation, and should apply the principles of good corporation management to educational affairs. Their executive officers should have authority and be held accountable for the work.

A board should supply funds, supervise expenditures, and determine the policy and future extension of the school system.

Its duty is to see that the schools are properly managed and not to manage them itself.

It is not appointed to build buildings; but to see that they are built.

It is not appointed to supervise teachers; but to see that they are supervised.

In short, it is appointed, not to do the work itself, but to get it done.

As running a school system is an expert business, directed to one end, the education of children, it should be managed by an expert manager, and that manager must be an educator.

The same thought expressed by this president of a board of education may be reflected in specific duties under the following ten factors:

- 1. Select the chief executive officer and support him in the discharge of his duties.
- Appoint—upon nomination and recommendation of the chief executive—teachers, principals, and supervisors.
- 3. Approve textbooks, selected by the chief executive and approve courses of study recommended by him.



- 4. Require and consider the report of the business transacted or pending and of the financial status of the system.
- 5. Determine, after consultation and discussion with the chief executive, the schedule of salaries.
- Require and discuss the report of the chief executive concerning the progress of the schools —in terms of achievements of pupils, teachers, and supervisors.
- 7. Pass upon the annual budget for maintenance prepared by the chief executive and his assistants ("budget" including sources and amount of revenue available as well as expenditures).
- Advise with the chief executive, affording a group judgment, on his recommendations for extensions or readjustments of the scope of educational activities.
- 9. Adopt, upon consultation with the chief executive, a set of rules for the government of the school system.
- 10. Debate and pass upon recommendations of the chief executive for additional capital outlays—buildings, sites, improvements, and determine the means of financing such outlays, e.g., bonds, loans.

The necessity for a board of education to recognize itself as a judiciary and legislative rather than as an executive body cannot be over stressed, particularly in respect to the selection and employing of members of the school staff should delegation of authority be employed. All employees of a local school system should be, by all means, selected by the superintendent of schools. If extenuating circumstances seem to necessitate a special committee of teachers from the board of education, such a committee should serve both as counsel and balance for the superintendent.

As before stated, it is imperative that the board of education recognize the superintendent of schools as its chief executive. In the light of this basic principle it seems peculiar that in listing the administrative officers of the board of education, the office of the superintendent of the schools should be omitted, as has been done on stationery carrying the name of the board of education in the Racine public schools. If these basic principles concerning the function of boards of education could be completely and fully incorporated in the governing articles of the Racine board of education, a more efficient administration of public education would be the result.

Administrative Officers—The Superintendent and the Secretary

Chart No. 1 shows the chief administrative and supervisory officers of the board of education in their relation to both the board of education and to each other. As is seen from this diagram, the administration of public education in Racine rests with two officers rather than one. The superintendent of schools, according to the rules and regulations of the board of education, is responsible for the "educational" affairs of the school system, while the secretary of the board is responsible for the purchase and distribution of supplies, letting of contracts, accounting for moneys, etc. It is no longer possible to pigeonhole the duties of the chief school executive into "business" and "educational" compartments. It is the function of public education to equip boys and girls in such a way that they may later live successfully as members of a very complex society. All money expended for public education is supposed to serve this purpose. It is imperative for the completest realization of this goal of public education that the administrative authority be centered in one office. This office of centralized authority should be the office of the superintendent of schools. No attempt should be made to enumerate and specifically define the detailed functions of the superintendent.

In order to have the relationship of the superintendent of schools to the board of education clearly understood, it is necessary to make one rule only. This rule may read as follows: The superintendent of schools shall be the chief executive officer of the board of education and of the public school system. He shall be the administrative head of all departments of the school system and shall be responsible for their efficient management. He shall report to the board of education frequently and in detail on the management and progress of the public school system.¹

A perusal of Chart No. 1 shows that this basic principle of administration is violated throughout the system because of the dual plan of administration. The status of the office of the superintendent of buildings and grounds is particularly unique, as well as undesirable, when the person who must fill that office is considered. It will be noted that this office is directly responsible to three different divisions, namely: the special committee of the board of education, the secretary, and the superintendent. Investigation as to the office to which the superintendent of buildings and grounds is responsible showed clearly that all concerned are more or less bewildered as to existing administrative relationships. Likewise the special supervisors and directors, as well as building principals, are responsible to two central offices rather than one.

The most essential requisite for the success of any organization is the centralization of its administration. As has been before stated, the board of education is analogous to the board of directors of a large corporation. Both boards are responsible to the constituency. The board of education to the people as taxpayers; the board of directors to the stockholders. Both groups are interested in results. The attainment of these desired results should rest on the ability of the executive who is responsible for the particular organization in question. The superintendent of schools should be given complete charge of all phases of the school system. He should choose, subject to the approval of the board, all the employees of the school system. Accompanying such authority there should go corresponding responsibility. Such a relationship between the superintendent and the board of education in no way detracts from the prestige and power of the board of education. Indeed, such a centralization of authority and responsibility enhances the possible scope of the service which a board of education may render. The superintendent should be able to justify his recommendations on the basis of the probable benefits to the boys and girls of the particular school system involved. The old adage that "too many cooks spoil the broth" was never more perfectly illustrated than by a school system in which there existed a multi-headed administrative board rather than a unitary scheme of control. Just as certain specific principles have been suggested for the wise execution of the duties of the board of education, so may the responsibilities and duties of the superintendent of schools be summarized as follows:

- I. Relation to the Public (superintendent as organizer).
- 1. The superintendent should be an aggressive, optimistic, open-minded exponent of the most modern and most efficient conduct of the public schools which his community can actually afford.
- 2. The superintendent should have a definite policy of school management and of educational advancement, based upon a scientific knowledge

of the needs and the financial capabilities of the community.

- 3. The superintendent should not attempt unduly to manipulate the results of the election of school board members.
- 4. The superintendent must be optimistic, sincere, open-minded, patient, just, and democratic
- II. Relation to the Board (superintendent as organizer; as executive).
- 1. The superintendent is the educational leader of the community and it is his duty to formulate a definite policy of school advancement which the board can pursue.
- 2. It is the duty of the superintendent to provide the board with the necessary data and facts which will justify it before the public in its constant improvement of the school system.
- 3. The superintendent should assume the professional and educational duties of the selection of teachers, the supervision of teachers, the selection of textbooks, the promotion of pupils, et cetera.
- 4. The superintendent owes the board a full loyalty. He will not criticize it, or its actions, to any other member of the school force, or to the public.
 - III. Relation to Teachers (as supervisor).
- 1. A superintendent should not seek, by personal solicitation, to sell to any employees in

the schools any commodity or service.

- 2. A superintendent should be frank, honest, and definite with a teacher in matters pertaining to his work or tenure.
- 3. A superintendent should see to it that all contracts offered teachers are just.
- 4. It is the duty of a superintendent to strive that no teacher be offered a wage that is not sufficient to provide a proper living income for twelve months in the community where he is to teach.
- 5. It is the duty of a superintendent to encourage and promote the professional growth of teachers in service by every means possible.
- 6. The superintendent can secure the best efforts of the school force only through a policy of cooperation. It is the duty of the superintendent to secure this cooperation.

The office of the secretary of the board also employs the title of business manager, although the latter designation seems to have no official approval. This is a rather natural development since the present organization tends to draw all the "business affairs" into the office of the secretary. Although both terms are more or less anomalous and loosely defined, it seems that the present incumbent of the secretary's office does also perform the duties of a business manager.

The Small Town Superintendent

By One Who Is!

In a recent number of the School Board JOURNAL "One Who Was" tells why he would not want to be a small town superintendent again. We feel that there are compensations in the superintendency of a small town, which at least balance the trials and inconveniences and perhaps overshadow them at times. It is of these compensations of the small town school executive that we wish to speak. We grant that there are many difficulties peculiar to this position, but who cares for a position in life which does not present obstacles to be overcome? May not meeting and working against adverse circumstances make the joy that comes with a certain degree of success even greater? Does not the mental rolling up of one's sleeves and fighting bring an exhilaration and alertness which make the situation very nearly (if not wholly) enjoyable? Do not the permanent satisfactions greatly outweigh the difficulties, disappointments, and annoyances? We believe they

Our friend's first objection to the small town superintendency is that the tenure of office is short and that this is caused by the prejudices and factions of the small town. Both of these evils do exist to a great extent in every small community, but very seldom do we find a parent who is willing to deprive his child of the best that can be done for him to gratify his own personal feeling. A faction may not become friendly, but a superintendent who can show both that Johnny and Mary are doing good



work and getting satisfactory supervision in school, is not likely to be asked for his resigna-In other words, so long as the children of the community and their best good are the problems always uppermost in the mind and heart of the superintendent, the ax seldom falls. Children are quick to respond to friendliness and fair treatment. If the boy reports at home that he is doing more this year than last, if he evidences greater interest in school and school work, if he says as we heard a twelve-year-old lad say of a young man last week, "He's a good man," the parent is more than likely to smother his dislike for the color of the superintendent's tie in order that Johnny may continue under the influence of the man. The dislike of the superintendent's clothes, religious beliefs, and political affiliations will be overshadowed by the transformation he works in Johnny. I believe that the tenure need not be short. However, it has been my observation that the majority of small town superintendents do not remain in one place a long time because they wish to move on to a position of greater responsibility.

It may be granted that housing conditions are not ideal for the superintendent of schools in the small town. He needs must take whatever is available and that is often inconvenient and uncomfortable. I am located in a small town and at the present time my family and I are occupying one of the "prides of the early seventies." But the evenings when forty or fifty merry, light-hearted high school boys and girls find our rooms large enough for their social gatherings and when we feel that because of these social contacts we have come closer to an individual who is a problem, we are thankful for the rooms "large enough to make a drill hall for a company of the national guard." Or when the younger boys of the community feel free to come into our home to visit or read, the old woodwork is a distinct advantage in that we do not regret so much the accidental scratch. There are compensations even in the "old mansions." These contacts with the boys and girls of the town not only enrich the life of the superintendent but may be the means of exerting a wholesome and wide influence.

From the Atlanta Survey, 1921-1922.

In the third place "One Who Was" speaks of the grief incident to securing a new position due to the fact that school boards do not choose the superintendent for his professional qualifications. This being true, a new duty is added to the many of the small town administrator. Our friend admits that school boards are "the cream of the community, people far above the average in business ability, intellect, and public spirit." Is it not possible to give these publicspirited people a professional point of view which will help them in choosing the next superintendent?

As a rule the members of a school board are anxious to secure the most efficient system possible. They are interested in what the school is doing, and hence the more details that can be given to them about the system, the better they can judge what they have. Charts and graphs showing the progress of each pupil and of each grade presented to the board every six weeks stimulate interest in local educational The School Board Journal and problems. kindred magazines should be given to them with the articles which pertain to the local problems marked. They will read the marked paragraphs and absorb much information. I have had the experience of having a merchant on the school board ask, "Why isn't our geography taught like that lesson outlined in the back of the Blank magazine?" (He had read the whole magazine.) Many times at least one member of the board has enough leisure to attend a teachers' institute or a convention, with the superintendent, if he is invited. Invariably a half day of attentive listening to the methods advanced in an institute will elicit from the board member this remark, "No one can teach that who is not trained for it." When the board mem-

bers have reached the stage where they demand detailed reports from the superintendent every six weeks, when they read all the professional literature lent to them, visit the school, attend teachers' conventions, and realize the necessity of training, the superintendent can assume with safety that they will very earnestly attempt to select his successor for his professional qualifications

In addition to the points already discussed there are other problems of the small town su-perintendent that are intensely interesting. The selection of teachers and the training of teachers in service are two of the big tasks. There are great difficulties in supervising the work of teachers in the small town schools and in securing the best service possible. The superintendent who succeeds in this respect should feel that he has accomplished much.

The personal contact with all the children of the town is a pleasure in itself. Nowhere does the superintendent learn to know the pupils of his school as well as in the small town. Here he is in daily contact with them in their homes and recreations as well as in the schoolroom. He has limitless opportunities for service in molding their lives through his supervision of their work and play.

In conclusion, I feel that our friend "Who Was" has given undue emphasis to one side of the situation. I admit that there are the difficulties and problems which he has described, but I believe that most of the difficulties may be solved and that the work brings its own compensations. I believe that the small town superintendency is a job very much worth while if only for the opportunity it affords for personal contacts with the community, the school board, the teachers, and the children themselves.

ing of superintendents I had always found essentially dynamic and hopeful. Comparatively few men in the crowd were ever absolutely sure where they were going to be a year later. What of it? If they did have to move, there was always the possibility of landing a new job with a little larger salary, perhaps, a few more teachers, a bit more of prestige. Most of them felt they were on their way, and they were pretty confident the way was upward. The stranger who brought tidings of a vacancy in a better job was always made thrice welcome.

The great majority of the high school men on the other hand, seemed to be contentedly resigned to their fate. They had neither fear of losing their present job nor aspirations after a better one. They had no expectation of doing anything but continuing in their present position until they would either die or retire. A very few (you could count them on the fingers of one hand) had their eyes on principalships, but the rest had no hopes of and no desires for

greater responsibilities.

A considerable number were making teaching a part-time job. In fact, the salary schedule of our city is so low that a married man is practically compelled to seek some outside source of revenue if he is to maintain his family in any degree of comfort. One man put in as much time selling bonds as he did teaching; another had a greater income from his commissions as an insurance agent than he had from his salary as a teacher. One of the bookkeeping teachers audited the books of several small business firms. One of the history teachers was a floorwalker on Saturdays and during the summer in a downtown department store; a man in the foreign language department spent his out-ofschool hours translating the foreign mail of a large business establishment.

I wonder if there are men who can hold two jobs at the same time, and do both of them full I have noticed that most business justice. houses forbid their traveling salesmen to carry sidelines. It seemed to me that my associates on the high school faculty were weakened as teachers by their side lines. Since they were more secure in their teaching positions than they were in their extra-school jobs, there was a tendency to give more time and energy to these other activities. The man who sold insurance after school hours had to dig to make any money out of it, but he was in little danger of losing his income from teaching so long as he stayed out of jail and kept his name off the scandal pages of the yellow newspapers.

Very few of the men had any time for professional advancement. The College of Education of our university is one of the best in the United States, and a good share of its graduate classes are scheduled at such hours as will make them available to teachers in active service. Yet, the only high school teachers registered were a few like myself who had just recently come into the system. In all probability, the course of study in our city will be completely reconstructed in the next five years, but when one of this country's greatest authorities on curriculum gave a course of lectures on that subject in our city, the number of high schoolmen in attendance was scarcely enough for a basketball

While sidelines blocked interest in University Extension courses, one subject, teachers' tenure legislation, received its share of attention in spite of all distracting influences. Accustomed as I was to the precarious hold that the average small town superintendent has on his job, the tenure of teachers in the city seemed most blissfully secure. The oldest veteran on the faculty was not able to recall the unjust dismissal of a teacher from our high school. Even in the mad spy-hunting days of 1917, old Dr. Schmidt of the foreign language department had kept

What I Found in the Large City School System

By a Former Small Town Superintendent

Two years ago, after six years of service as superintendent of schools at Blank Center, I began to recognize the handwriting on the wall. I secured a unanimous re-election in the spring, but the terms of three of the six school board members were to expire in the summer, and it seemed that at least two and perhaps all three would be succeeded by people whose presence on the board would be unpleasant to say the least, so far as I was concerned. Furthermore, one of the board members whose term was not going to expire in the summer was the one on whose support I could rely the least.

With a wife, a boy six years old, and a girl four years old dependent on me for support, I decided that it was high time I looked around for a new job. Another year, and the probabilities were that I should be thrown out without one. But what if I did get a new superintendency? The chances were that it would be only a matter of time, before we should again confront the same situation. The same, except that it would be worse if anything the next time for I should be some years older, and age and experience are more apt to be liabilities than assets on the balance sheet of a candidate for a small town superintendency.

A position in the large city school system on the other hand offered comparatively secure tenure. I knew that school boards and superintendents might come and go, but that efficient principals and teachers in the large city would still keep their positions undisturbed. The opportunities for advanced professional training offered by the Saturday and late afternoon classes of the university which is located in our city were also attractive. So, although the only city position open at the time was one as a high school teacher of English, I took it.

The opening of school found me in charge of Home Room 109 in a high school of twenty-five hundred pupils and one hundred twenty teachers. The environment to which I had transplanted myself was in many respects a delightful one. The principal of this high school is pretty generally considered to be the outstanding principal of the system in personality and executive ability, and the administrative machinery of the school functioned with a smoothness that almost made one forget that there was any administrative machinery. No effort was spared to make it as easy as possible for the teachers to do good work. Everybody had a supreme amount of confidence in the common sense and fairness of the man at the head: I have never seen a more unanimous loyalty anywhere. Furthermore, there was a most congenial spirit of fellowship among the members of the faculty. Even those of us who were new were made to feel a part of the group in a

Pleasant as it all was, I could not help realizing the difference that there was between these city school teachers as a class and the small town superintendents with whom I had been associated previously. The spirit of any gather-



American participation in the war. Secure as the tenure in our city seemed to me, it evidently was not secure enough, for when the state legislature convened in January, the topic of absorbing interest to everyone was the securing of teachers' tenure by legislative enactment. Some of our number spent every possible minute up on Capitol Hill buttonholing bewildered legislators, delegations of us were marshalled up to hearings to intimidate and impress the education committees of the two houses. Innumer-

his job in spite of out-spoken opposition to

able petitions and letters were avalanched on our representatives. The bill died in the twelfth hour jam preceding the final adjournment, but the following week plans began to be made for a new fight when the next legislature would

meet two years hence.

In political belief, too, I found that I was an The tendency of most small town odd fish. superintendents has seemed to me to be rather conservative in their political leanings. This is to be expected, of course. The banker, the merchant, the successful lawyer, and other men of their type are generally the predominating element on most small town school boards. These men are generally more interested in the conservation of rights in property than purely personal rights, and the superintendent being thrown in with them more than with anyone else, naturally is pretty apt to absorb their viewpoint. Be that as it may, I came to the city with rather conservative Republican views. My associates in high school, on the other hand, were decidedly radical in their political affilia-Their political associates were not the professional and commercial elements of the city but organized labor. The defeat of La-Follette was mourned by most of them as a national catastrophe and a personal sorrow.

After ten years of strife and tribulation in small town superintendencies, my work in the high school was soothingly peaceful. I went to work at eight in the morning, taught three classes of English III and two classes of English III, and at two o'clock was through for the day if I chose to be. No irate parents to pacify because some tactless teacher had made a careless remark, no trouble-threatening decisions to make, no vexatious budgetary worries. I felt almost as free from responsibility as a school boy turned out for his summer vacation.

If I had been unmarried, I suppose that I would have stayed on in high school, become each year a little more contented and a little more concerned about adequate tenure legislation. But married men's wives have a mean habit of giving them a sharp prod about the time they get too comfortable and contented for their own good. The more comfortable and satisfied I became in my high school job, the more insistent my wife was that I ask for a grade school principalship. The pressure finally became so strong that I capitulated, went down to the superintendent's office, asked for a grade school job, and got it.

When my high school faculty friends learned of my new position, they were more inclined to commiserate than congratulate. They asked me if I did not realize that I was laying myself open to infinitely more opportunities for trouble, and that from now on, I would be held responsible not only for my own mistakes but the errors of others as well. Some of the men who like myself had been small town superintendents before coming into the city assured me that I might just as well go back to a superintendency as far as my future comfort was concerned. One of the older men said, "You poor man, from now on your time will be taken up listening to the silly patter of parent-teacher association women. You will have to listen patiently, and say, 'Fine, fine,' when what you really want to say is, 'Woman, you are talking

THE USES OF SCIENCE

The world, like a child at Christmas, is willing to receive the material gifts of science but refuses its moral lessons. The world will accept from the hands of science, railroads and radios, soft raiment and foreign foods, airplanes and submarines, but turns a deaf ear when science would talk of peace, efficiency, economy, foresight, and the frank facing of facts.—Edwin E. Slosson, Washington, D. C.

foolishness, go back home and take care of your children and your kitchen."

Like most prognostications of disaster, I found these bear stories of my high school colleagues very much exaggerated. In most respects, my work as a city principal has been very much the same as my work as a superintendent in a small town except that I have been free from the problem that I always found most troublesome as a superintendent, that of school finance. I no longer have retired farmers reproaching me with blame for their high taxes. I have no responsibility for the budget of my school, I have nothing to do with the fixing of teachers' salaries, and I do not have to purchase the supplies.

My relationship with the teaching force of my school has been one of the most pleasant features of my past year's work as a city grade school principal. For the first time in my life, I have had under my direction a force of adequately trained and experienced teachers. The salaries and social conditions offered by the small towns in which I worked were such that it was impossible to attract experienced teachers of ability. I always had to choose between experienced teachers of such mediocre ability that they could not get into larger school systems, and promising young women just out of teachers' college. I picked the latter with the result that I practically ran a normal school most of the time I was a superintendent. This past year, however, I have had associated with me a group of women whose experience ranges from seven years to nineteen. The wonderful part of it has been that with all their experience they have retained the enthusiasm and willingness to take helpful constructive criticism of young training school graduates.

From what I have seen of the two groups, it appears that the grade teachers of our city are showing much more interest in professional growth than are our high school teachers. Extension courses and professional lectures seem to attract the grade teachers in much greater numbers even making allowance for the greater number of grade teachers in the system. One reason for this is that our city is just inaugurating a system of junior high schools. It is the policy of the administration to give teachers



THREE SUPERINTENDENTS OF OAK PARK, ILL.

already in the system the preference in the selection of teachers for these new junior high schools on the condition of course that they are qualified. This is furnishing a powerful incentive to advanced professional study on the part of the grade teachers. A similar reaction is noticeable among the grade school principals since all but one of the junior high school principals appointed to date have been promoted from the ranks of the grade principals.

I think that the city grade school principal has it over his brother in a small town superintendency, by the way, in that he has his work evaluated by professional educators while the superintendent has his work judged by a board of laymen who in many cases are not qualified to decide what is worth while and what is rubbish. Of course the small town system is visited once a year by the state school inspector, but the state inspector in the brief time that he is in town is often prone to jump at conclusions which he would revise if he had a more adequate opportunity, to get at the facts. The rewards in small town school administration are apt to go to the man who does the showy things rather than to him who attempts that which is worth while. In a city such as ours, however, with a competent superintendent and assistant superintendent ever on the alert to commend that which is professionally significant, a principal has every incentive to put first things first.

I also like the city because after school hours I am as free and independent a citizen of these United States as is my neighbor, the tailor, next door. I can buy my groceries at the Piggly Wiggly, at the little grocery on the corner, or in the grocery department of the big store down town. Nobody makes it his business to find out what I buy or where I buy it, and nobody is going to make things miserable for me or try to run me out of town because I go to one place rather than the other. We can go to church without having anyone find fault or express resentment. We can pick our friends where we wish, and we can spend our evenings as we please.

Whether in selecting a city grade school principalship, I have chosen the path that leads to my greatest opportunity for service to society and the rewards that are for me most worth achieving, time alone can tell. One thing I do know, I am traveling a road of fewer bumps even though it may have deeper ruts.

OAK PARK CELEBRATES FIFTIETH ANNIVERSARY OF THE SUPER-INTENDENCY

The school system of Oak Park, Illinois, enjoys the unique distinction of having had but three superintendents in the fifty years of its history, and all of the three living at the present time.

In order to honor the pioneers of the school system on the occasion of the fiftieth anniversary, the school system and community of Oak Park united on October 24th, in a reception and program of entertainment for Mr. and Mrs. Dodge, the first superintendent and his wife.

Mr. B. L. Dodge, the first superintendent of schools, assumed charge of the educational work in 1876 and served until 1892. He was followed by Mr. W. H. Hatch, who took up the work in 1892 and served until 1917. The present superintendent, Mr. W. J. Hamilton, was elected in 1917 and is now in the tenth year of his service.

The evening's entertainment consisted of a program of music and speeches, the presentation of a portrait of Mr. Dodge, and an informal reception. Brief addresses were made by Supt. W. J. Hamilton, Dr. James B. Herrick, Mr. Clyde Stilwell, and Mr. James J. Garvey, president of the board of education. The portrait of Mr. Dodge was made at a special sitting by Pauline Palmer, a portrait artist, and was presented to the Lowell School, where it hangs in the Dodge Library and Reading Room. The portrait was presented with a brief address by Mr. Dodge, and was accepted by the president of the Board of Education and the president of the Lowell School parent-teachers' association.

School Housekeeping

M. S. Olson, Director of the Janitor-Engineer Training School, Minneapolis Board of Education

THE CLEANING OF FLOORS

gh re

n-

ol

0-

al

rd

ed

nt

ns

ds

th

ch

rs

or,

he

or

go

go

ds

g8

in

to

th

do

ip8

its

ni-

of

TS.

rk red in

erin

of by Why Clean Floors? Writing in the Saturday Evening Post under date of August 14, 1926, the late Luther Burbank begins his autobiography as follows:

"Back of every plant, every shellfish, every burrowing rodent or ravaging animal, and back of every human being, there stretches an illimitable and mysterious heredity, about the nature of which, and concerning the influence of which on the individual, scientists and the wise men spend their lives in research and speculation and conclusions. Little as we know of this subject, we have pretty generally agreed that the newborn child has a heritage of tendencies and inclinations which furnish the foundation or groundwork upon which he must build his house of life.

"But it is only the foundation, I think; the superstructure is built by environment. Heredity is the shape of the edifice, its position on the ground, whether a hillside or a plain, a rugged rock or a piece of shifting sand; environment is largely the architect of the structure. Probably I have used that word 'environment' more often than any other man that ever lived; if I seem to put stress on it, as these papers grow, it is because seventy years of interest in plant life and of wholesale experimentation to discover, test, practice, and then codify the laws underlying that life, have compelled me to the belief that environment is a great molding force behind the steady progress of the universe."

Back of all commonly expressed reasons, such as sanitation and the civilized grown-ups' desire for clean surroundings, stands Burbank's plea for right environment for the children of this nation.

Henry Ford expresses the same thing as it concerns men. When asked what he would do if he were called upon to take charge of a manufacturing business that was failing because of excessive costs of production, he replied, "The first thing I would do, would be to see if the plant was clean. It is a hundred to one that I would find it dirty. If so, I would clean the place from end to end before I did another thing. There is nothing that so demoralizes working men as a dirty shop."

While Mr. Ford's ratio of one hundred to one would probably be too high for school buildings, there are many which are actually dirty and only about one in a hundred with beautiful floors whose surfaces daily release their accumulation of dirt with its content of germs and bacteries.

The area of hardwood floors in school buildings is usually much larger than the terrazzo, cement, and tile material. Linoleum seems to

Note—For seven years, the Minneapolis board of education has operated a janitor-engineer training school for its employees, numbering some 350 men and women. While the classes were intended primarily for public service employees, they are open to others in the city who are engaged in janitorial or stationary engineering work. During this entire time, the writer has organized, supervised and coordinated the work of the school and thereby accumulated considerable first hand information relative to janitors and their work. To add to this study, the months of July and August of this year were devoted to the inspection of school buildings in the state of Minnesota. Particular attention was paid to the condition and appearance of school floors on these trips because of the realization that therein lies the secret of successful housekeeping. Consequently, the first three articles will deal with the problem of the cleaning, preservation and maintenance of floors. They are presented with the hope of serving to shatter wrong methods and possibly, improve others.



FIGURE 1. SCRUBBING UNDER DESKS.

be growing in favor and threatens to diminish the use of hardwood.

However, it is not the purpose of this article to discuss the relative merits of floor material, but instead to accept the floors as we find them and suggest a way to restore them to their original or nearly original beauty.

Inasmuch as the greatest problem lies in the restoration of hardwood floors, they will be taken as the standard floor with the understanding, however, that the same methods apply with equal force to other materials.

The common practice with wood floors is to oil them. Floor oils are usually a combination of mineral and vegetable (linseed) oils. Invariably their use leads to disastrous results as



FIGURE 2. SQUEE-GEEING SCRUB WATER FROM THE FLOOR.

it retains a considerable amount of the daily supply of dirt and the surface gradually blackens and becomes unsightly.

To restore an oiled surface to a clean white appearance is a simple matter. Assuming that it has been saturated, there will, undoubtedly, be a great percentage of mineral oil present. Tri-sodium-phosphate powder dissolved in water acts as a mineral oil solvent and applied to the floor will emulsify (form into fat globules) as much as it can reach of this material. If the floor is saturated, two to four scrubbings at intervals of two or three days will be necessary in order to free the wood entirely of mineral oil. This explains why a scrubbed floor may be white immediately upon drying after the first scrubbing, but a week later show dark, unsightly spots. The deep oil has risen to the surface again through the porous clean fibers of the wood, bringing with it buried dirt and taking on the ordinary supply of dust in the room. Trisodium-phosphate also acts as a bleach on vegetable oils such as linseed. One scrubbing of a boiled linseed filled floor with a strong solution of tri-sodium-phosphate will bring forth a white

Occasionally school floors are treated with raw linseed oil. It dries very slowly, forming a tough, hard film similar to varnish and almost as durable. It cannot be made to bleach appreciably and consequently as it wears out, the floor becomes "spotty" due to variable traffic, there being heavy travel in the aisles, light in other parts of the room and none for several inches out from the baseboard. This appearance is corrected once each year by re-oiling in the summer vacation and allowing at least one month to dry under favorable temperature conditions.

In addition to oil, all floors accumulate considerable dirt and varying amounts of animal fats. These are very simple to remove. Scouring powder for the animal fats and soap for the dirt is all that is necessary. Scouring powders with sufficient soap content are now available. This dusted on the surface to be scrubbed and only enough water used to make a light paste, will effectively remove both dirt and fat. Housewives, for years, have used scouring powder to clean bath tubs, sinks, greasy kettles, and tiled surfaces.

The Mechanics of Cleaning Floors. We have stated that only two cleaning materials need be used in removing oil, dirt, and animal fats, namely tri-sodium-phosphate in solution and scouring powder, dusted on the floor. We shall now consider the operations involved in cleaning a floor.

Think of the ordinary methods in use—bucket of water, soap, brush, etc., water to floor, scrubbed more or less according to individual effort, the dirty water mopped up and replaced in bucket. The result is an attempt to achieve clean floors with dirty water—an impossibility.

The cleaning of floors involves three distinct operations, namely, scrubbing, disposal of dirty water, and mopping.

I. Scrubbing. Scrubbing is now done electrically without labor and at a considerable saving in time and material. The first illustration shows a janitor using an electric scrubbing machine under set school desks of the smallest

The scrubbing machine assures an evenly scrubbed surface because it operates at a constant speed and at the same time applies a uniform weight on the brushes.

II. Disposal of Dirty Water. The dirty water is removed from the surface with a heavy rubber squee-gee and then drawn into a water

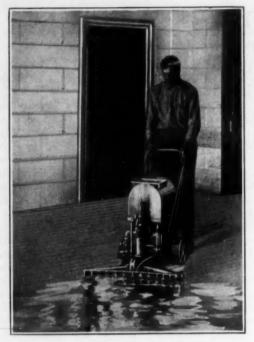


FIGURE 3. PUMPING DIRTY SCRUB WATER FROM A FLOOR.

pan, constructed for this particular purpose. The second illustration shows this ingenious contrivance. Where the janitor is confronted with standard size classrooms with their set furniture, this squee-gee device is particularly effective. It is also inexpensive.

On large open areas, an absorber is commonly used. The dirty water is pumped up from the floor to a reservoir of considerable capacity. When the receiving tank is full, the absorber can be rolled out to the slop sink and emptied. The third illustration is of a janitor using the absorber on a gymnasium floor of considerable

III. Mopping. With ordinary methods, it is customary for the janitor to use from two to three mops merely to remove the dirty water from the floor.

Under modern methods, the mop becomes a once-over operation. It serves only to pick up any stray scouring powder or to remove spots of dirty water, missed by the squee-gee or absorber.

The old wringer pail should be discarded. It is not cheap at any price because pulling a mop under pressure will eventually pull the strands out of the best mop. Secondly, dirty mops immersed in dirty water cannot emerge as clean mops, and this is precisely what the janitor deceives himself into believing when using the old wringer pail.



FIGURE 4. A MOP RINSER.

The mop should be rinsed in clean water and wrung out. The fourth illustration shows a standard light weight mop truck with two pails, one for clean water and one for the waste water. By interposing a sieve-like barrier between the waste pail and the mop, it is possible to keep the mop out of the dirty water entirely and thus guarantee what we are striving for—clean mops for clean floors.

IV. Removal of Varnish. Where varnish has been used and it is desired to restore the entire floor to a uniform appearance without going to the expense of sanding it, varnish remover should be used.

Varnish remover should be flowed onto the surface and allowed to work its way into the varnish coat for fifteen or twenty minutes.

Coarse steel wool or fine steel shavings should then be used to cover the brushes of the electric scrubbing machines. A carton of steel wool should be rolled out into rope-like form and cut into lengths to fit the brush surface. This will save time as it will be found that the steel wool fills up very quickly with the old varnish and will have to be discarded for fresh lengths to continue effective work.

With the varnish removed, the floor should be given a thorough scrubbing with a scouring powder containing soap or with a strong soap solution.

The fifth illustration shows how steel wool is attached to the brushes of a typical scrubbing machine.

In concluding this article on the cleaning of floors, the following recommendations are submitted:

1. Use the proper materials to assist the process.

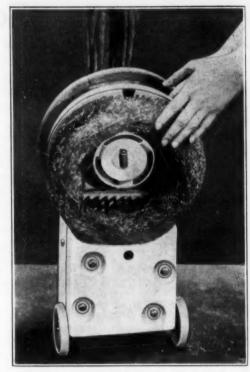


FIGURE 5. STEEL WOOL ATTACHED TO A SCRUBBING BRUSH.

- 2. Scrub—either by hand or machine—not mop, or pole scrubbing since neither are thorough and both put too much water on the floor.
- 3. Rid the floor of dirty water in one operation and quickly.
 - 4. Use a clean mop—once over.
- 5. Allow twelve hours for floor to dry out before preserving.

(The second article will take up the preserving of floors.)

Ventilation of School Buildings 1

Herbert N. Morse, Business Agent of the New Jersey State School Department, Trenton, N. J.

"Each classroom shall have at least eighteen square feet of floor space and two hundred cubic feet of air space for each pupil to be accommodated in such classroom. All school buildings shall have a system of ventilation, by means of which each classroom shall be supplied with fresh air at the rate of not less than thirty cubic feet per minute per pupil. Approved ventilating stoves will be allowed in all one-story school buildings, and in all school buildings in which the number of rooms does not exceed two."

This is the ventilating requirement of all new schoolrooms in the state of New Jersey. It was in the main statute law until July 1st, 1911, then the rule of the State Board of Education:

"The State Board of Education strongly recommends the installation of a mechanical system of ventilation, operating by electricity, gas, steam, or other motive power, in all buildings of four or more rooms, and of two or more stories in height, as experience shows that gravity ventilation is unreliable."

One-half of the states of the Union have similar regulations in reference to the ventilation of public schoolrooms.

There is one requirement missing in our ventilating regulations: That every ventilating system be in operation every day the schools are in session, with a penalty imposed on the district for failure to meet the requirement.

At this time there is a very technical and wordy discussion going the rounds over the country regarding schoolroom ventilation. This discussion goes into the amount of air exhaled by each pupil each minute while in school; the amount of body fumes exuded; the amount of dust each pupil may stir up in the average

movement he or she makes in a median clean room; the chemical content of raw air surrounding the school building; and also of the air in the schoolroom; the possibility of disease contaminated pupils transmitting the germs to the free circulation in the air with which other pupils come in contact; and many other contributing facts. We can safely leave all of these discussions to the pro-and-con professional experts who must furnish the scientific data from which we can draw our conclusions. We, as schoolmen in New Jersey, must keep our feet on the ground and consider the health and activity of the school pupil to permit the best study condition while in school. If you desire to do a little research work, for your information, I wish you would consult the following references, then use your best judgment in determining whether you wish a well ventilated schoolroom or no ventilation other than the air which might be received from open windows and doors.

New York Ventilating Commission Report: What the New York Commission Did and Why, By D. D. Kimball, a member of the New York Commission; 1923 meeting National Asso. Public School Business Officials.

Mechanical vs. Window Ventilation, by E. S. Hallett, in 1923 Report of National Association of Public School Business Officials.

Cost of Heating and Ventilating Systems, by J. J. Mahar, in 1923 Report of National Asso. Public School Business Officials.

Journal of American Society of Heating and Ventilating Engineers, March, 1926.

These references will give you the whole story. The scientific experts are trying to discover whether:

(1) Ventilation is needed in schoolrooms?
(Continued on Page 186)

¹A report read before the New Jersey Council of Education, October 29th, 1926.

The Teacher as An Administrator

Part II-The Teacher as a Superintendent

Harlan C. Hines, Professor of Education, University of Cincinnati

Although the office of superintendent of public schools is very infrequently held by persons who have not been previously connected with the schools, the typical school superintendent, whether he be serving the county, city, or state, has come to his position through gradual growth. Very often he will have begun his teaching in a country school, later becoming the principal in a small village, later the superintendent of a town or county, and finally, the superintendent of a city or state. He may have begun his teaching in a city, of course, but, under ordinary conditions, it would be necessary for him to serve as a principal, if not as a supervisor or assistant superintendent, before being elevated to the highest office.

Such experience is usually held to be necessary in order to familiarize the superintendent with the work of those whom he will have under his direction, and, while experience is still the best teacher, if he has come to higher position through merit rather than through political influence, he will have taken all the steps necessary to make one a highly successful school executive. These steps include professional training and the extent to which this is carried on will have been determined pretty largely by the existing requirements for the next higher position and the strength of the individual's desire to extend his field of service. Neither experience nor professional training will guarantee success in the important position of superintendent of schools, but the two linked together are apt to produce a combination that, all other things being equal, will carry one into a position of high trust, when one of them alone would leave the aspirant unfitted for the various duties necessary to the task.

The Superintendent's Job

The more important the position the more complex it is sure to be, and the position of superintendent differs from those lower down the scale in a significant way. The classroom teacher as a type serves only the children under instruction; the principal as a type serves only that portion of a city or town by which his school is patronized; while the superintendent is the servant of the entire school district. To serve with distinction he must be a man of many parts, as is readily seen when his multifarious duties are cataloged.

n

6,

ıt

d

There are two important differences between the position of the principal and that of the superintendent. First, the principal is directly responsible to but one individual-the superintendent, while the latter is directly responsible to the board of education—the representatives of the people. And second, the principal puts into operation the educational policies inaugurated and outlined by the superintendent, while the latter must originate these policies and qualify them only through suggestion or mandate from the board. With these differences understood, the work of the two is comparable in the sense that the duties of the superintendent, like those of the principal, fall into four main classifications—duties of administration, of organization, of supervision, and social duties

While all the duties of the superintendent may be thought of as administrative in character and while some of the duties as classified overlap, those that are distinctly duties of administration are usually described as office business, such as correspondence, conferences, preparation and submission of reports to the board at its regular or called meetings, the preparation or oversight of all publicity material that concerns the system at large, and the initiation of



new movements that are to affect the progress of all the schools. How much of this work will be classed as pure business will depend upon whether or not a business manager has been employed to whom are delegated the duties of purchasing supplies and equipment, supervising buildings and grounds, paying the salaries of teachers, etc. The practice of employing a business manager has grown up in some of the larger cities and has been a success in some places and a failure in others. The typical superintendent will need to look after the business details of administration and, even though a business manager is employed or members of the board divide these duties, it is well for the superintendent to have a sufficient knowledge of business to be sure that the transactions of these operatives are in conformity with his policies of organization.

Organization of Superintendent's Work

The business of his office will need to be well organized else his entire program may fall down and the superintendent may well begin by building from within. Among the more important organization duties is the delegation of certain powers to assistant superintendents or supervisors and, before these go into the field, it is essential that they fully understand the policies under which the system is to go forward. Upon them may devolve the problems of research through the solution of which policies of organization may be extended and widened in their scope. The early days of preliminary organization will be partly consumed by conferences with board members and principals and, following these, will come the issuance of instructions and suggestions to all under officers of the system. Before the opening of school it is customary to call together the entire teaching staff in order to place before all persons serving in official relationship to the superintendent the general policies as outlined. Only by doing this is it possible for members of the teaching body to know whether or not they are conforming at all times to the desires of the chief officer. Suggestions as to the specific regulation of separate schools will be reserved for conferences with principals and these are usually preceded by a meeting with all principals some time prior to the opening of school or as soon thereafter as possible.

Although the upkeep of buildings and grounds may be the responsibility of a business manager, the superintendent will find it desirable and advisable to include the inspection of these in his duties of supervision. For them he will be ultimately responsible to the board. And, whether or not the actual work of supervising instruction is delegated to regularly appointed supervisors or to supervising principals, he will also be held

responsible for the instruction offered in the various schools and the tangible results accruing therefrom. This usually involves some sort of measurement and the wisdom exercised in approaching this problem will go far in determining whether he is to be a success as a superintendent.

Administrators who delegate such work to subordinates without a ready conception of the problems involved, methods to be used in solving them, and the value of reported results, are slighting a most important work and will only be able to lengthen tenure by strength in other lines of endeavor or by subterfuge. An occasional and unannounced visit to classrooms where the results of teaching may be observed will be of benefit both to the superintendent and to those more directly in touch with the effort to improve instruction. This will be in line with the continuous program of education planned for the system and for all those in any way connected with it.

Public Relations of the Superintendent

Finally, of all school officers, the superintendent will need to possess the highest qualities of social adaptability. Because of his position as administrator of the school system he is apt to be invited to act as president of local societies or clubs and is sure to be asked to at least take out membership in these. From no other member of the community will public appearance be so much demanded. In smaller cities he will be the moving force of the parent-teacher club and will have influence in the direction of all societies concerned with school problems. If these organizations do not exist he may be expected to initiate the necessary movements to bring them about. Nor will these always be confined to clubs for adults, for to the superintendent may come the added duty of organizing student clubs or of encouraging his principals to do so. In brief, he must not only know his school system and his community thoroughly, but he must act as a pivot around which the more important social activities of the city revolve. Far more than the principal he will be subject to praise or adverse criticism and in his hands lies the power to create in the community a higher level of intelligence.

He does not work alone and unhampered, however. The school system of any community, while developing both vertically and horizontally, is a circular affair. Children leaving the home for school are responsible to the teachers. The teachers, in turn, are responsible to the principals. The principals, in turn, are responsible to the board of education. And the board of education, in turn, is finally responsible to the people whose children are being trained in the schools.

If his policies are to succeed, the superintendent must create, therefore, a spirit of harmony and co-operation between himself and the board. In general, his relations with that body will be similar to those of the manager of a corporate enterprise with his board of directors, in which he acts as a confidential adviser. But, while it may be necessary to confer with single board nembers as committee heads, most of the business should be conducted with the board as a whole. A policy of fair play with the board should be adopted and all reports submitted should be characterized by a spirit of frankness, sincerity, and honesty. Reactions to these reports, unless released by the board for publication, should be treated as strictly confidential and the remarks of any single member should not be quoted outside of board meetings.

The Board and the Superintendent

The membership of the typical board of education is so varied in character that these things will not be easy to do. Few superintendents have the entire support of their boards at all times. If conviction has been carried to the majority there will be sufficient reason to continue existing policies, but no action should be taken until each and every member has had opportunity to present his arguments. Thus will each know that nothing is being done underhandedly and thus will each not only allow opposition to die out, but will rally to the superintendent's support in other matters. important change, even the matter of seeking a new position, should be presented to the board for careful consideration of all members.

Once the board of education is in agreement with the superintendent's policies, his next task will be to train his principals to carry them out. The principal of each school must represent the superintendent at that school and the failure of a single principal to do this well will subtract from the superintendent's power as a leader. In his position he is not only the pivot for social activities, but is also the hub of the educational wheel, from which the spokes supporting each school extend. The strength of these individual spokes determines the maximum strength or carrying power of the wheel. As in dealing with the board, the superintendent may succeed with but a majority of the principals in agreement with his policies. On the other hand, failure to convince a principal that these represent wisdom is sometimes sufficient to defeat them if not to cause the superintendent to withdraw from the system.

It will be seen, then, that the relation of superintendent and principal should be one of co-operation and understanding rather than one of drivership and followership. Conferences, even though brief in character, should be held with individual principals and stated meetings with the principals as a group, where the problems of the system may be discussed, should be included in the program of administration. In sizing up the progress of the whole system, the superintendent should study the placement of each principal and be ready to adjust the work of each, or to transfer from school to school those who would contribute more if permitted a change of scenery. A safe rule to follow is for the superintendent to do something, however small, that will be of benefit to the principal. The latter will give kind for kind, and the former may be in a position to specify the duty or attitude that will serve the system most.

Selecting Teachers

Having been a successful teacher the superintendent should be able to fortify his position by the selection of teachers with marked potentialities and with tendencies easily trained to the various purposes of the system. He should seek to select them and promote them on their merits as judged on the basis of their training and experience. Following the newer tendencies he should permit each of them to make some free contribution and should give each sufficient responsibility that a feeling of loyalty and cooperation will spring up at once. As mentioned previously, all the teachers of the system should be called into a general meeting before the school year opens in order that the superintendent and his policies will become known to them. It may not be possible, in fact, it is hardly probable, that he will be able to meet each one, and this is seldom necessary, since most of the problems of the individual teacher may be taken up with the principal or supervisor. All other things being equal, the superintendent who has the support of his principals is likely to have the support of all his teachers and he may help to solidify this support by giving evidence that he has their welfare in mind, is loyal to them, and

is willing to assist and encourage them at every turn.

Only that superintendent who makes a sincere attempt to measure his public and private actions by the highest standards of conduct will long succeed. The fact that he is a public servant throws his whole life open to inspection, but the fact that he must change from the servant to the director or counsellor at times makes his task a difficult one. To perform all the duties ascribed to him, to serve equally well the board of education, the principals, the teachers, the pupils, the parents, and to do this in such manner that his policies of organization and administration are effective requires an equitable distribution of all the best qualities attributed to man. While he must be imbued with a respect for the authority of the board of education, he must possess good judgment and good business sense, must have no fear of hard

work, but should so conserve his strength that he at the same time conserves poise and diplomacy, must know how to speak straight from his mind without giving offense, and must have and utilize the courage of his convictions, fighting fire with fire when that becomes urgent. Above all, he must be mentally alert, for instantaneous decisions must be made and he must be on the job at all times to see that his program does not fall down. Loyalty to all movements that tend toward educational progress, the cultivation of high ideals of professional service, the operation of the golden rule in his dealings with the people in his community and with superintendents in other communities, the assumption of an equitable amount of dignity in his professional undertakings, a knowledge of the relative importance of persons, studies, and things, all will help him to establish permanency in the profession.
(To be Concluded in February, 1927.)

Business Department of the Dayton Board of Education Reorganized

The board of education of Dayton, Ohio, at the close of the school year in June, entirely reorganized the businesss department of the school system in order to co-ordinate the various business activities for a more successful operation of the schools, and to relieve the superintendent of a large amount of detail, permitting him to give more time to administrative matters.

Under the new arrangement, all business activities of the board, with the exception of those pertaining to the offices of the clerk-treasurer and the attendance officer, have been concentrated. The business manager in charge of the department is directly responsible to the superintendent of instruction.

Business Activities Grouped for Administrative Purposes

The business activities of this department cover a wide scope and group themselves under six main divisions, as follows: (1) Building maintenance and repairs, (2) janitorial service, (3) building construction, (4) purchasing, (5) cafeteria, and (6) transportation.

The Building Maintenance and Repair Department

The building maintenance and repair department is responsible for the repair and maintenance of all school buildings and grounds. The 39 buildings in present use, comprising 1,170

rooms, in addition to incidental rooms and corridors, are in charge of this department. The continuous service of a considerable force of men is required to maintain these buildings and to adapt them to modern instructional purposes.

The department has a foreman, who is in charge of eleven carpenters and fourteen labor-They are employed during the summer in repairing furniture, rebuilding floors and partitions, repairing and adjusting doors and hardware, rebuilding cement sidewalks and floors, and repointing brick walls and chimneys.

There is also a foreman of painting work, who is in charge of a force of nine men constantly employed in redecorating buildings, refinishing desks, and miscellaneous furniture, as well as painting outside metal and woodwork around the buildings. The entire time of one man is devoted to the replacing of broken window glass.

The foreman of the furnace and tinning work has a force of four men who perform all the repair work on the furnaces in the building, as well as a considerable amount of downspout gutter and other metal trim.

The foreman of the plumbing department has four men, who are constantly employed in the maintenance and repair work of the steam heating plants, in addition to the plumbing re-(Concluded on Page 70)



BOARD OF HIGHER EDUCATION, NEW YORK, N. Y.. WHICH WILL ASSUME CONTROL OF THE CITY'S COLLEGES.

The first meeting of the Board of Higher Education, of New York City, which will take over the supervision of the public colleges of New York, took place during the month of November. The board will have charge of Hunter College, of the College of the City of New York, and of the proposed College of Commerce. The board will correspond in its functions and duties to the board of education which has charge of the elementary and secondary schools. The photograph shows (left to right), seated: Dr. Frederick B. Robinson, Acting President of the College of the City of New York and Provost of the Board; Fredrick P. Bellamy; Mrs. Wm. H. Good; Mrs. Maxwell Hall Elliott; Mrs. Mary Gilroy Mulqueen; Moses J. Stroock, Chairman; Phillip J. Sinnott, Secretary; Miss Ruth Lewinson; Charles H. Tuttle; and Albert Weiss. Standing: Laurence L. Cassidy; Leo L. Doblin; Dr. Harry P. Swift; James A. Hyde; Arthur M. Howe; and Ralph Jonas.

A Code System for School Accounts

Guy E. Sawyer, Milwaukee Public Schools, Milwaukee, Wis.

The improvement of school accounts is one of the problems attracting the attention of school people in the field of education today. This paper is devoted to a discussion of two topics which will serve as a means toward that end: (1) The value of a code system for designating school expenditure accounts; (2) the design of a system which will furnish a code for each of the accounts called for in the fiscal report of city schools to the United States Bureau of Education. This report is required annually of the public school systems in cities, towns, boroughs, and villages, and, in its organization, represents the essential features in school accounts.

What is a code system? A code system, referring to accounts, is understood to be an arrangement of symbols which will represent, and be used instead of, the names of individual accounts. The symbols may consist of letters, a system of figures such as the decimal system, or combination of both letters and figures. A definite arrangement of symbols represents each account and provision is usually made for the designation of new accounts which may need to be added on occasion. Names of accounts are frequently long and inconvenient to use in places where their presence might contribute to the accuracy and dependability of the accounts. There are usually not more than four symbols in the combination designating particular accounts and these can easily be placed even on the index tabs locating the accounts in the ledgers.

10

is

·k

Advantages and Applications of Code Systems
An abbreviated means of designating individual accounts becomes very useful in actual practice. All bills, vouchers, checks, and other papers pertaining to a particular expenditure should be labeled in a uniform manner and the code furnishes a convenient and concise designation whose meaning is readily understood by all concerned. Irrespective of whatever organization the accounts in a particular school system follow, one of the serious problems in making those accounts dependable, is not so much the numerical mistakes which may be made in arithmetic, but rather the mistakes in posting expenditures to the wrong account. Such mistakes are often entirely covered in the books and, if discovered at all, may be only by accident. If all financial papers relating to a particular expenditure can be conveniently labeled with the code for the proper account, then the possibilities of wrong posting are minimized and the chances of discovery of mistakes in classification increased.

This presupposes proper classification in the beginning. Dr. W. W. Theisen, in a paper reporting the wide variation which school accountants showed in classifying a list of ten expenditure items, brings out the necessity for more detailed instructions for charging specific items and states further:

"It is essential that those persons responsible for placing the charges be thoroughly familiar with the instructions. Some of you have observed no doubt that inaccuracies frequently result from the practice of allowing several individuals within the same system to determine charges. A far better practice would be to require all items to be passed upon by a single individual. If accounts are properly coded this may be done very rapidly."

The code system and the budget. The first step in relation to the school expenditures for any particular year in an up-to-date school sys-

tem is a determination of the budget. budget, however, possesses no great value unless steps are taken to guarantee that it will be followed at least as much as possible. By the use of a code system, each budget item can be coded and all financial papers for expenditures can bear the code of the budget classification from which that expenditure is to be paid. If it should so happen that the budget allowance for a particular item has been exhausted, the expenditure should still be posted to that classification and authority secured for the transfer of the necessary funds to cover the deficit. A further aid in guarding against the occurrence of errors and a help in discovering mistakes is to have pasted on the inside covers of books of account detailed information as to the classes of expenditures receiving particular code desig-

The code system and unit costs. The comparison of unit costs for the same type of service in different schools and for different types of schools in the system constitutes a valuable means which the superintendent has of discovering inefficient units in his system and of keeping the expenditures for different types of activities in proper relation to each other. To guard against injustice to any particular interest, when making such comparisons, the utmost dependability must attach to the cost figures used. Unit costs frequently do not contain all of the cost of a given unit. In selecting items for unit costs from a coded system of accounts, the organization of the code itself can be made to guard against unintentional omissions. For example in the system set forth later in this paper, all codes for charges to general control or administration have the figure "1" in the hundreds place. A complete cost figure for general control would include the totals of all accounts whose code number in the hundreds place was "1". Similarly, all distributed costs for kindergartens come from accounts whose code number in the hundreds place is either "2" or "3" and "1" in the tens place. A complete cost figure in this case would require that the proper proportion of general control costs be added to the totals of the accounts coded as specified above. Further illustrations can be found throughout

The code system and the organization of accounts. It frequently is desirable in public affairs to be able to draw comparisons between costs in various cities. At the present time, comparisons of total costs are often unreliable due to the wide variety of services which may or may not be included in what is apparently the total cost. Some cities emphasize particular activities in much greater proportion than others. In one city, the playground and extension activities receive an unusual amount of attention. At the same time, due to the fact that the city comptroller handles all matters pertaining to the bonded indebtedness and simply furnishes the money as needed by the school board, the important school cost of interest on indebtedness is not found at all in the report of disbursements by the secretary of the school board. Again, the school health service is furnished entirely by the city health department and nowhere is it reported as constituting a part of the school costs. These three cases will serve as illustrations of variations which may be discovered in other systems. However, despite the fact that total costs are not always comparable, it should be possible to find unit costs for particular services which may be made comparable. The creation of such data implies similar organization of accounts. The adoption of a uniform code system for school accounts

will be a definite step toward making the organization of the accounts themselves uniform and thereby creating a larger body of directly comparable cost data. The designation of accounts by a carefully organized system of symbols must automatically improve the organization of the accounts themselves, placing together to a greater degree those expenditures which logically belong together.

The code system and reports. School systems have been burdened with many reports, some regular to higher educational authorities and agencies for the collection of school statistical data, and others arising from the efforts of particular interests engaged in the gathering of data on specific problems. There is a growing tendency to refer individual requests for data to either the United States Bureau of Education or the National Education Association where files of general educational statistics are kept. The preparation of reports for these agencies is made easier when the accounts follow the organization used in the report blanks. A code system designed for use with the reports mentioned will be a valuable aid in the organization of the necessary accounts and the distribution

The Design of the Code System Characteristics of the report with which it is to be used. The United States Bureau of Education blank for the reporting of fiscal statistics for public schools in cities, towns, boroughs, and villages is an eight-page form, 9"x15" in size, on which the annual fiscal summaries for school systems throughout the country are collected. Five of the pages bear the spaces for the data: there are two pages of detailed directions on the preparation of the entries and the final page is blank. Should the school income and expenditures furnish items in each of the classifications. there are 845 entries to be made in completing the report. It is probable that the usual number is somewhat less. The data are to be prepared by the chief fiscal officer of the school

Considerations determining the type of code system chosen. As stated earlier, code systems are arrangements of symbols, either letters, figures, or combinations of the two, for designating individual accounts. Any system, to be capable of the largest use should contain provisions for expansion and should be so organized as to be easily comprehended. If the organization is simple and systematic, a surprising amount of it will be retained in the minds of the individuals dealing with the accounts. In so far as possible, similar, but not the same, symbols should represent the same type of activity in different school departments. The greatest consistency in this respect can be secured by the use of a decimal system save when a number of classifications at a particular stage is markedly greater than the number of figures available. The decimal system has the further advantage that it can readily be used with mechanical tabulating and card sorting machines for the rapid summarization of statistics.

It has been possible to adapt a decimal system to the report form as organized and only deviate from a logical conformity with the decimal principle in a few unimportant details. Mixed systems using both letters and figures in the code have been adopted in some states, notably Indiana; in New Jersey, a pure number system is in use but the code follows the decimal plan only loosely.

The system proposed is not ideal in certain respects due to limitations imposed by the design of the report; however, the maximum of simplicity and consistency has been striven for.

Theisen, W. W.: "Procedure for Uniform Accounting." Proceedings of the 12th Annual Meeting of the National Association of Public School Business Officials, pp. 147-54.

Should it be desirable to go further than the accounts required in connection with the report, expansion of the code will be found to be very easy. One such expansion which may be desirable is in the provision for different types of special schools instead of carrying all special schools in one account as suggested in the organization of the report.

Detailed characteristics of the proposed code. The section following will be most readily understood if the reading is accompanied by a study of the Bureau of Education report blank. The code is capable of indefinite expansion but as presented embodies, for the most part, the use of figures in only four places, the hundreds, tens units and tenths places. The hundreds tens, units, and tenths places. figure (thousands in the case of debt service) designates the function or kind of work helped along by the expenditure, such as 100, administration, and 300, instruction. The tens figure designates the department or branch of the school system for which the expenditure was made, such as 160, administration, superintendents of schools and their offices, and 340, instruction, junior high schools: The units figure furnishes a more detailed designation of the department for which the expenditure was made. The tenths figure designates the type of material or service for which the expenditure was made, such as salaries, supplies, etc.

It is manifestly not within the limits of this paper to present the code for each one of the 845 items in the complete report. The organization of the code has been set forth, however, and illustrative examples chosen to show how it applies to particular items. In each case where 0's appear in the code numbers itemized from here on, it should be understood that these 0's may be replaced in actual use by other figures which will furnish a more detailed designation of the expenditure in question. The 0's are used here because they may be replaced by any one of several numbers which, if all included in the outline, would make it needlessly bulky. Control accounts, i.e., accounts including the items of a number of subordinate accounts, will bear code numbers in which the figures ordinarily designating the subordinate accounts

have been replaced by O's. The hundreds figure (thousands in the case of Debt Service) designates the function or kind of work helped along by the expenditure as follows:

Administration. 100 200

Supervision. Instruction. Coordinate Activities. 400

Auxiliary Agencies.
Operation of School Plant.
Fixed Charges.
Maintenance of School Plant.
Carital Outlook 600 700

Capital Outlay.

900

000 Debt Service.

The tens figure designates the department or branch of the school system for which the expenditure was made as follows:

Under Administration, 100

120

der Administration, 100
School Elections.
Board of Education and Secretary's Office.
Finance Offices and Accounts.
Officers in Charge of Buildings.
Officers in Charge of Supplies.

Local Services 130 150

Legal Services
Operation and Maintenance of Administra-170

tion Buildings.
Superintendents of Schools and Their 180 offices

Administration of Vocational Relations and 190 School Census.

Administration of Coordinate Activities. Other Expenses of General Control. (Figures in units place are used in the last two cases since the tens figures have

all been designated.)
Under Supervision, 200; Instruction, 300; Coordinate Activities, 400; Operation, 600; Fixed Charges, 700; Maintenance, 800, and Capital

Outlay, 900, the tens figure is used as follows: 210 Kindergarten.

Elementary schools. schools. 220

Junior High Schools. High Schools, including Technical and

Commercial. Vocational, Trade. and Continuation

Schools.

Teacher Training Schools (City normals).

Colleges (under city board of education).

Americanization Classes.

NOTE—It is understood that the "2" used in the hundreds column above may be replaced by "3", or "4", etc., as desired in designating the other functions involved.

Under Auxiliary Agencies, 500, the tens figure is the following meanings:

Libraries, Public.

Transportation of Children.

Care of Children in Institutions.
Public Lunches and Lunch Room Deficits
(excluding equipment).

Adult Lectures.
Community Centers.
Operation of Playgrounds. 570

School Gardens. School Savings Banks.

Tuition Payments to Other School Cor-

591 Tuition Payments to Other School Corporations.
592 Other Auxiliary Agencies.
 (Figures in units place are used in the last two cases since the tens figures have all been designated.)
The units figure designates the branch of the school system in a more detailed manner. This applies in the case of all functions except Administration, 100, Auxiliary Agencies, 500, and Debt Service, 1000, where it is used only as specified in the notes under those functions.
 Under Kindergartens, Elementary Schools,

Under Kindergartens, Elementary Schools, Junior High Schools, High Schools, Vocational Schools, Teacher Training Schools, Colleges, and Americanization Classes, the designation of the units digit is as follows:

Full Time Day Schools. Part Time Day Schools. Summer Schools.

Summer Schools.

Evening Schools.

Vocational Teacher Training.
few examples of the use of the digits as specified are as follows:

Supervision of Full Time Day Elementary

Instruction in Part Time Kindergarten Operation Costs, Summer Junior High

Operation Costs, Summer Junior High Schools.
Capital Outlay for Evening High Schools.
Maintenance Costs, Evening Americanization Classes, etc.
Under Debt Service, 1000, the designation of the units digit is as follows:
Redemption of Short Term Loans.
Interest on Short Term Loans.
Redemption of Bonds.
Interest on Bonded Indebtedness.

Interest on Bonded Indebtedness.
Payments to Sinking Funds.
Refunds of Tax and Tuition. 1004 1006

Other Items.

(Figures may be substituted for the 0's

in the tens place here designating different branches of the school system.)

The tenths figure designates the type of material or service for which the expenditure was made

Under Administration, the addition of a tenths figure designates the following accounts. Salaries.

Supplies Other Expenses.

Under Supervision, the addition of a tenths figure designates the following accounts:

1 Salaries of Supervisors.
2 Supervisory Clerical Service.

Other Expenses of Supervision. der Instruction, Principals' Salaries.

Clerical Service for Principals. Teachers' Salaries. Educational Supplies. Free Textbooks.

6 School Library Books.
7 Other Expenses of Instruction.
Under Coordinate Activities.

Compulsory Attendance. Medical Inspection.

3 Dental Inspection.
4 Nurse Service.
Under Auxiliary Agencies,
1 Salaries.
2 Other Objects.

Under Operation of School Plant,
1 Personal Service (Janitors, engrs., etc.).
2 Engineers' and Janitors' Supplies.

Gas and Electricity.

Fuel.

15 Telephone.
16 Water.
17 Other Expenses of Operation.
18 Under Fixed Charges,

Pensions.

Rent. .3 Insurance.

Taxes.

Compensation Law.

.6 Payments of Orders.
.7 Other Expenses of Fixed Charges.
Under Maintenance of School Plant, the addition of a tenths figure designates the following accounts:

Repair of Buildings and Upkeep of

grounds.

Repair and Replacement of Engineers' and Janitors' Equipment.

and Janitors Equipment.

Repair and Replacement of Educational Equipment and Furniture.

Other Expenses of Maintenance.

Under Capital Outlay,

Purchase of Land.

 $\frac{1}{2}$

Purchase of Land.
Improvements to Sites.
Construction of New Buildings.
Architectural and Engineering Costs of

New Buildings.

Landscaping and Playgrounds for New

Buildings.

6 Equipment for New Buildings.

7 Alteration of Old Buildings.

8 Equipment for Old Buildings.

1003.1 Payments from Current Fullows.

1003.2 Payments from Sinking Fullows.

1003.2 Issue of New Bonds.

Payments from Current Funds. Payments from Sinking Funds. Issue of New Bonds.

1003.3

Under Interest on Bonded Indebtedness, 1004.1 Payments from Current Funds. 1004.2 Payments from Sinking Funds.

The above code has been designed to fit exactly the present organization of the United States Bureau of Education blank. The writer is informed in a personal letter from Mr. L. A. Kalbach, chief clerk of the Bureau of Education, under date of April 26, 1926, that there were printed in 1924 sufficient copies of this report blank to last for about five years. No changes will take place during that period. There are, however, changes contemplated when the present supply is exhausted. Committee on Accounting and Terminology of the National Association of Public School Business Officials met with Dr. Frank M. Phillips, Chief of the Statistical Division of the Bureau of Education in January, 1924, and prepared with much care a series of recommendations for changes in the report and explanations thereon, as well as passing upon a series of classifications of doubtful items.2 These changes are for the most part minor and the present code can be adapted to the proposed new blank by anyone familiar with its operation. A letter from Mr. D. D. Hammelbaugh, a member of the committee and president of the Association at the time the report was adopted, under date of April 22, 1926, states that no further changes are contemplated. There is every reason to believe, therefor, that this code system, if put into operation, can be retained for some time.

The National Education Association is the principal other national agency collecting fiscal statistics for city schools. The organization of its report blank is such that the same accounts which furnish data for the U.S. Bureau of Education blank also satisfy its requirements with the following exceptions: There is a provision for research under General Control; this could be given the code number 193. Differentiation of equipment as provided under Capital Outlay would call for the following accounts with codes as listed:

901.61 Service Systems for New Buildings.
900.62 Furniture for New Buildings.
900.63 Instructional Apparatus and Equipment for New Buildings.
900.81 Service Systems for Old Buildings.
900.82 Furniture for Old Buildings.

900.82 Furniture for Old Buildings. 900.83 Instructional Apparatus and Equipment for Old Buildings. The usual substitutions for 0's is the hun-

dreds and units places can be made. accounts would be combined for the government

(Concluded on Page 189)

²Report of Committee on Accounting and Terminology. Proceedings of the 13th Annual Meeting of the National Association of Public School Business Officials, pp. 105-111.

are

s. d. ed

M.

he

la-

of

de

by

ter

he

at

of

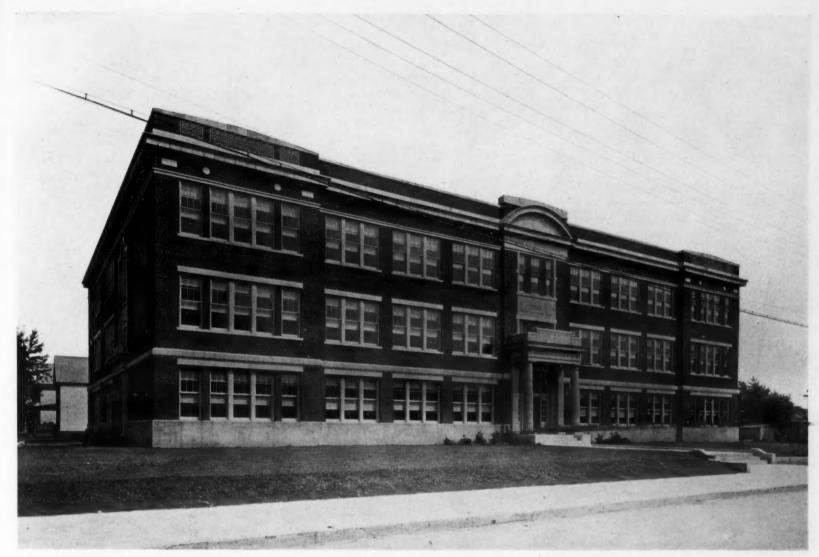
ne. the

nts of

onts orothis enital ints

uip-

unnese nent



SCOTIA HIGH SCHOOL, SCOTIA, NEW YORK.

NEW SCOTIA HIGH SCHOOL, SCOTIA, N. Y. A. W. Miller, Superintendent of Schools

The new high school at Scotia, New York, has three stories, known as the ground floor, the first floor, and the second floor.

The ground floor contains the following rooms: Gymnasium, shop, chemistry and physics laboratory, biology room with plant room, sewing room, cooking rooms, fan rooms, and boiler room.

The first floor contains the administration offices, study hall, library, commercial rooms, history room, and auditorium.

The second floor contains the regular class rooms. The English rooms which are connected by folding doors and are provided with a small stage with curtain for dramatization, public speaking, etc., represent an unusual feature.

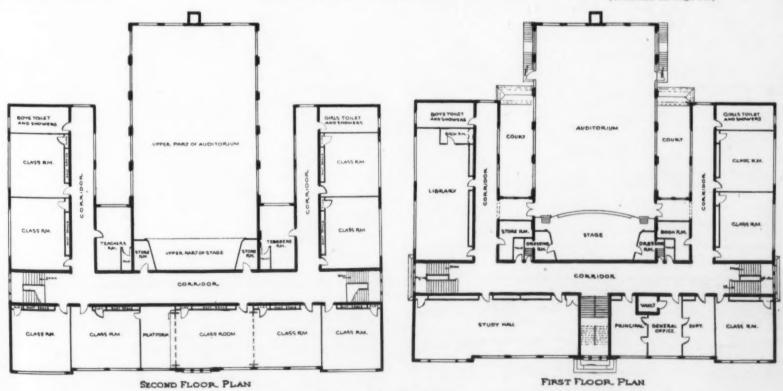
In construction the building is strictly fireproof. The exterior wall is of dark red brick with a raked joint. The corridor and toilet

J. M. Ryder, Architect, Schenectady, N. Y.

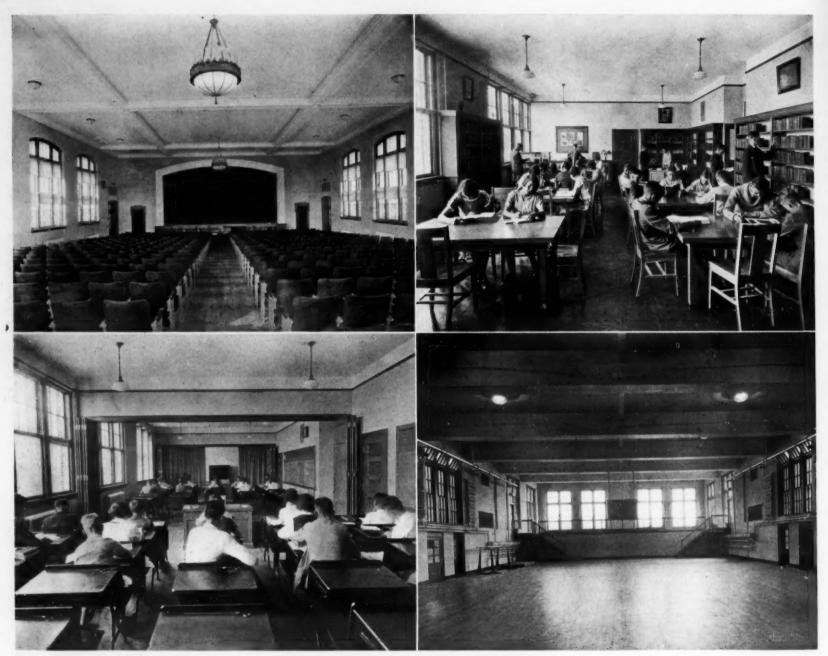
room floors are covered with terrazzo; the offices and library with battleship linoleum; the remainder of the flooring with maple wood.

The interior trim is of oak finished in a French gray. Throughout the building the furniture is stained to match the trim. Every detail was planned with great care so that the whole became a harmonious unit, in the belief that surroundings of simple beauty leave an indelible mark on the aesthetic tastes of growing children.

(Concluded on Page 140)



SCOTIA HIGH SCHOOL, SCOTIA, N. Y. J. M. Ryder, Architect, Schenectady, N. Y.



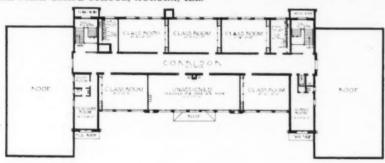
SCOTIA HIGH SCHOOL, SCOTIA, N. Y. TOP: Auditorium and Library; BOTTOM: English Room and Gymnasium.



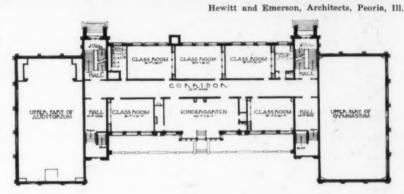
SCOTIA HIGH SCHOOL, SCOTIA, N. Y. J. M. Ryder, Architect, Schenectady, N. Y.



OAK PARK GRADE SCHOOL, AURORA, ILL



SECOND FLOOR PLAN



FIRST FLOOR PLAN



OAK PARK GRADE SCHOOL, AURORA, ILL. Hewitt and Emerson, Architects, Peoria, Ill.

ELAGE STONAR MALL ORNERS DESIGNED DESIGNED DOUG TOLATE MALL OWNERS DESIGNED DESIGNED

THE AURORA COMMUNITY GRADE SCHOOL

In the purchase of the site and the preparation of plans for the Oak Park school at Aurora, Illinois, the building committee of the board of education had a vision of making the school and the playgrounds a community center. Visits were made to other cities where careful inspections were made of modern school properties in order that the building might have the very latest equipment and furnishings. The committee recognized the need for a modern school and a large playground for the extreme northeast section of the city, one of the closely populated neighborhoods in the city. As a result, the Oak Park school boasts the largest playground in the city, where hundreds of children can be accommodated at one time.

The school is located on a four-acre tract, which is surrounded with playgrounds where supervised play is maintained both summer and winter with the cooperation of the city playground commission. The building is both a school and a community center and is considered one of the best grade schools in the State of Illinois. It embodies the most modern improvements in educational facilities and is at once both practical and beautiful.

The architectural style follows that of southern Italy. The red tile roof and red brick walls make a pleasing structure, which harmonizes with the neighborhood and forms a real architectural beauty spot.

In arrangement, the building comprises two wings flanking a long, narrow building with a frontage of 242 feet and a depth of 82 feet. The wings are occupied by a gymnasium at the east end and an auditorium at the west. Both front and rear entrances are accessible and attractive. Three entrances in the front, including the main entrance, and two at the rear, are provided. There are twelve classrooms, all well-lighted and equipped.

The kindergarten room on the first floor is provided with a separate entrance. It is designed for beauty, as well as for practical instruction. A large fireplace with a mantel occupies the center of one wall, while leaded glass windows occupy one entire wall, affording plenty of light. Small chairs and tables are provided for the children who attend the classes.

The auditorium seats between 400 and 450 persons. It is provided with a well-equipped stage large enough for all school plays and en-



ENTRANCE DETAIL, OAK PARK GRADE SCHOOL, AURORA, ILL.

tertainments, and for community meetings. A silver screen has been installed for school and community motion pictures.

The gymnasium, 80 feet by 40 feet, occupies the other wing. It is well equipped with physical training paraphernalia, as well as basketball boards and baskets. The floor is of standard size and is suitable for school parties, banquets, and dances.

The building is built of steel and concrete, making it entirely fireproof. An adequate steam heating system with thermostatic control keeps the rooms at an even temperature, with a good circulation of air at all times.

A branch of the public library is maintained in the building where both school children and parents have access to books.

The school is provided with fine playground facilities which, when completed, will be the largest and finest in the city. There is a cinder gridiron, well drained, approximately 300 feet by 100 feet, which offers space for all forms of games. Another large space in the rear of the building offers room for playground apparatus and tennis courts.

The building was erected at a cost of \$250,000.

Mr. H. E. Emerson, of the firm of Hewitt & Emerson, Peoria, Ill., is the architect in charge of planning and erecting the building. The building committee in charge of the planning of the structure were Mr. Irving Ochsenschlager, Mr. Peter Weiland, and Mr. G. N. Dieterich.

—Ord, Nebr. The school board has paid off the last bonds of the old bond issue of \$40,000 for the erection of the south school. The bonds were retired three years in advance of the maturity date.

-Belmont, O. School bonds totaling \$35,000 will be issued in December for the erection of a new school.

—Akron, O. Pres. J. B. Hanan has indicated five sections of the city where new schools will be needed within the next two years to relieve the present congestion and care for future growth. It appears the board has money for the erection of the schools but no funds for operation after completion.



AUDITORIUM OF THE OAK PARK GRADE SCHOOL, AURORA, ILL.

THE NEW HEALTH SCHOOL IN WASHINGTON

The construction and operation of the Washington Health School marks an innovation, so far as the District of Columbia is concerned, in providing suitable instruction amid conditions designed to restore health to pupils in the incipient stages of tuberculosis.

This school, recently dedicated, presents a number of unique features. In planning it, one aim was held constantly in mind, that of providing facilities, first for restoring the physical vigor of unfortunate pupils, and second, to furnish the means for training their minds and hands. In doing this, sunshine, good lighting, fresh air, warm, nourishing food, and comfortable rest rooms, coupled with immaculate cleanliness, were made the distinctive characteristics as to health features; a curriculum especially adapted to the needs of the pupils was arranged for the school features.

In designing the school, Mr. A. L. Harris, municipal architect for the District of Columbia, entered practically a new field. His studies and quest for information disclosed the fact



WASHINGTON HEALTH SCHOOL, WASHINGTON, D. C.

that while there are many excellent buildings of the sanitarium or hospital type where the restoration of health is the predominating fac-

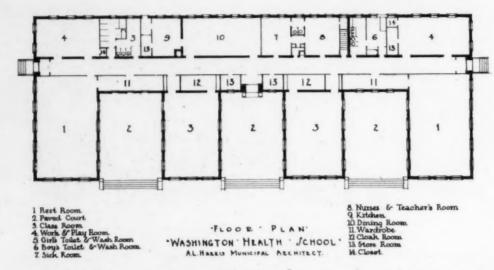
tor, none would serve as a guide in designing a building combining the two requirements of health and instruction.



WASHINGTON HEALTH SCHOOL, WASHINGTON, D. C.
TER: Wood Shop and Lunch Room.

BOTTOM: Sleeping Room and Typical Classroom.

TOP: Group of Pupils and Front View of Building. CENTER: Wood Shop and Lunch Room



As its name implies, the Washington Health School differs from other schools in its special provisions and adaptations in behalf of the health of the pupils. The school is located on an eminence, in an open space free from encroachments of other buildings, and when its approaches and environs are completed, will be in an attractive setting. It is of one-story and basement construction, 223 feet long and 84 feet deep, and capable of enlargement. At present it consists of a middle court flanked by two units, each unit consisting of a rest room, a paved court, and a classroom. Each unit affords accommodations for thirty pupils, and additional units will be added to meet the demands of increased enrollment. The central paved courts open to the south assuring a plentiful supply of sunshine. Light is provided in all classrooms and rest rooms by three large windows, a French doorway, and by a skylight. A room thus receives light and air not only from above but from eleven other apertures. Austral sashes at windows, and transoms provide ventilation. A floor plan shows the layout of the courts and wings, with the dimensions and relations to each other.

A distinctive departure from the ordinary school is shown in the provision of rest rooms, and their equipment of cots and blankets, a dining room with kitchen accessories, a secluded sick room, shower and wash rooms for boys and girls, all rooms of ample dimensions. There is also a laundry in the basement to which clothing and wash is sent in an enclosed chute. A vacuum cleaning system reduces dust and germs to a minimum and assures excellent sanitation. Modern equipment is used in all of the plumbing of toilet, showers, kitchen, and laundry.

Great importance is placed on rest in pure air, and upon warm, wholesome foods. The spacious dining room accommodates sixty pupils at tables for four pupils each. A glimpse into the dining room at one of the lunch periods indicates that the meal of warm soup and milk is partaken of by sturdy students rather than by sickly boys and girls.

The illustrations indicate the complete relaxation offered to the pupils on their sleeping cots. Out of every school day extending from nine o'clock to two-thirty, about one and one-half hours in two periods, are spent in recuperation by rest and sleep.

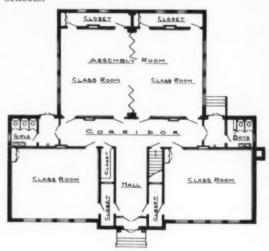
In a building of this character, the utmost care is taken to give an attractive appearance. The outside is of selected Occoquan brick. Architecturally the doorways and windows are pleasing. Extreme care was taken in the matter of coloring and finishing of the interior plastered walls, which have a smooth finish and harmonizing colors restful to the eyes.

All the rooms of the school—domestic science, manual training, and classrooms—are maintained at the acme of cleanliness. The slogan of the National Child Welfare Association is: "Health is the keystone in the arch of life." The Washington Health School operates in harmony with that slogan.

—Six thousand children attending schools in the lower east side, Manhattan and Brooklyn, New York, are fed daily at noontime from the central kitchen of the board of education. The lunches prepared at the central kitchen are provided for children in 22 schools at cost price.

A corps of cooks is employed to prepare the varied menus. The average cost ranges from seven to ten cents, which includes hot dishes. Hot soup, baked dishes, milk and rolls are among the items served, and a full meal may be obtained at the small price of thirteen cents.

The central kitchen occupies a temporary building erected several years ago to relieve congestion in the east side. The building has seven rooms, comprising a kitchen, an office, two rooms for the preparation of food and storerooms. Large vats are used for making soup and large ovens for baking hot dishes, and the food is delivered in large containers to the different schools. Other kitchens are located throughout the city and serve neighborhood schools.



FIRST FLOOR PLAN

RELAY ST. DENIS SCHOOL, BALTIMORE COUNTY, MD.
Smith & Mays, Architects, Baltimore, Md.



RELAY ST. DENIS SCHOOL, BALTIMORE COUNTY, MD.

Smith & Mays, Architects, Baltimore, Md.



ROBBINSVILLE SCHOOL, POBBINSVILLE, N. J.

THE ROBBINSVILLE SCHOOL, ROBBINS-VILLE, N. J. The Robbinsville school was erected last year

for a small community of 4,000 population, and is modern throughout. The exterior of the building is of a rough finish red brick, with Indiana limestone trimming. The architectural style is a simple Colonial design and the ornamentation is limited to the main entrance.

The building is of the one-story and basement type. The first floor contains four classrooms, a teachers' room, and rest room. The interior finish is cypress, stained dark brown, and the walls are sand finished in a buff color. The basement contains space for play rooms and a boiler room. The heating system is of the unit type.

The building was erected by W. W. Slack & Sons, Trenton, N. J., and cost \$37,000, including the equipment.

SCHOOL BUILDING NEWS

—Mansfield, O. The citizens have been asked to approve a bond issue of \$150,000 for improving the grade school and completing the high school.

school.

—Cleveland Heights, O. Plans have been completed for a school bond campaign to raise \$800,000 for the proposed building program outlined by Pres. W. B. Woods. The new schools are needed to care for the ten per cent increase in school population.

—Jena, La. An election was held to vote on a bond issue of \$60,000 for a new school at Tullos, in LaSalle Parish. An additional grade school will be erected at Olla, at a cost of \$60,000.

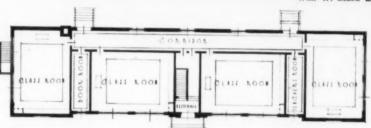
—The board of education of Chicago has a cost of the same and the school will be a cost of \$60,000.

—The board of education of Chicago has approved plans for spending \$10,000,000 to erect eleven school buildings.

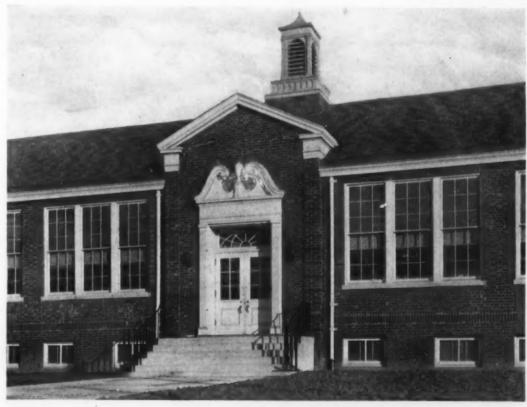
—The board of education of New York City has approved plans for a school in South Jamaica, to cost \$583,000. An appropriation of \$1,000,000 has been asked for the acquisition of new sites.

—The voters of Trumansburg, N. Y., have approved an appropriation of \$225,000 for a new school. The building will be erected on the site of a former school.

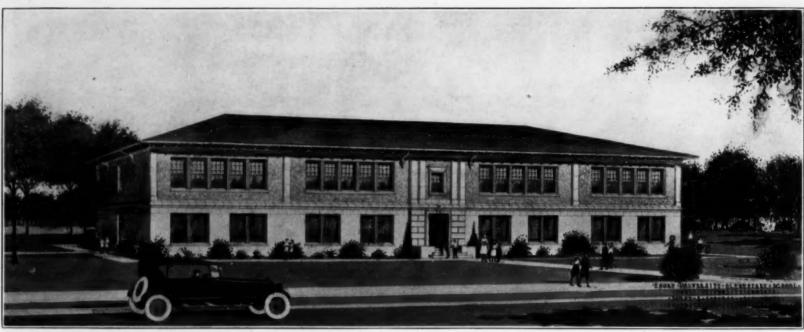
Wm. W. Slack & Son, Architects, Trenton, N. J.



FLOOR PLAN OF THE ROBBINSVILLE SCHOOL, ROBBINSVILLE, N. J.



ENTRANCE DETAIL, ROBBINSVILLE SCHOOL, ROBBINSVILLE, N. J. Wm. W. Slack & Son. Architects. Trenton, N. J.



EMORY UNIVERSITY ELEMENTARY SCHOOL, EMORY UNIVERSITY, GA.

Burge and Stevens, Architects, Atlanta, Ga.

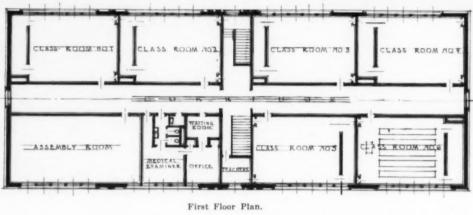
CHECKING UP ON HEATING C. C. Hermann, Moline, Ill.

A complete check on the efficiency of the heating system, as well as the condition of the building being heated, involves considerable time, labor, and money. Only rarely do we find such tests made in the interest of greater utilization of the fuel heating value. In fact, it is doubtful if such a test would be worth the time and effort put into it. However, this does not remove the advantage of having some general check on the heating system and building condition. We may feel that the fuel bills offer a sufficient index to the condition of the heating plant and the building in general. When the fuel bill mounts higher we cry "waste" and when it goes down we say nothing. As a matter of fact the fuel bill is no barometer at all since prices fluctuate and when we thought we were saving, the downward trend may have been due to a reduction in the price of coal, or a reduction in freight rates, or the purchase of a different grade of coal.

If we were supplied with some figures by the architect setting forth the theoretical amount of coal, or better yet, the theoretical number of B. T. U.'s required per year to heat a given building, we would have some half-way decent comparison. It is not beyond our capacity, however, to calculate the theoretical amount of B. T. U.'s required to heat a building and we can reconcile the figures or convert them to tons of coal very readily by determining the heating value of the coal in question. Almost any mine will supply the heating value of their coal or in a good many cases the figures may be obtained from the United States Geological Survey.

A concrete example will probably serve best in showing the procedure in arriving at the theoretical figures. We will consider a school building in which it is desired to maintain a temperature of 68° F. The building is located in the Central West, as for example, Madison, Wisconsin, where the average outside temperature for the heating season of seven months out of the year is 34° F. The heating season is from October 1 to April 30. The minimum temperature is ten degrees below zero, Fahrenheit.

The average difference in temperature between the outside and inside is found to be 34 degrees and the maximum difference in temperature is 78 degrees. In order, therefore, to maintain an average temperature within the building of 68 degrees over the given period of time, we find that the radiators must be worked hot 34/78 of the time, which in a decimal fraction is .44



BOAS - LTATA - KOOW - CIRES - META - META - CIRES - META - CIRES - META - META - CIRES - META - META - META - CIRES - META - META

Ground Floor Plan.

EMORY UNIVERSITY ELEMENTARY SCHOOL, EMORY UNIVERSITY, GA.

Burge and Stevens, Architects, Atlanta, Ga.

and this figure also represents the average steam demand over the period.

The entire heating period of seven months contains 5,040 hours; however, the room temperature may be dropped somewhat during the nights, on holidays, and Sundays. Therefore, we can make a further reduction in the time in order to correct our result to more nearly conform to actual consumption. The total hours may be reduced by 25 per cent, giving us 3,780 hours instead of 5,040 hours. Taking .44×3,780 we have 1,663 hours, which represents the time the radiators must work hot.

The amount of heat given off by an average radiator of standard dimensions is 225 B. T. U.'s per square foot of radiator surface per hour for a room temperature of 70° F. Therefore, taking as the basis 100 square feet of radiator surface, the heat given off during the heating season would be $100 \times 225 \times 1,663$ or 37,417,500 B. T. U. for each 100 square feet of radiator surface.

In order to convert these figures to tons of coal, we must know something regarding the

efficiency of the heating plant. Suppose 60 per cent of the total B. T. U.'s delivered in the coal are available for heating the room and we are burning coal having a heating value of 12,000 B. T. U. per pound. Then the B. T. U. available for heating the room is 7,200 per pound of coal. Dividing 37,417,500 by 7,200 we find that for each 100 square feet of heating surface of radiators, we should burn approximately 5,200 pounds of coal per season.

For checking purposes, therefore, we may safely assume that the building should be heated to the desired temperature with approximately this amount of coal supplied for each 100 square feet of radiator surface. In case more coal is used the heating plant is very likely inefficient, and if the room temperature is lower than 70°, provided the correct radiator capacity has been installed, there must be numerous air leaks and heat losses in the building. These matters will bear close attention.

In connection with the heating system, such items as pipe covering should be checked up.

(Concluded on Page 140)

A Soldier Teaches School: A Peacevale School Story

William Estabrook Chancellor, Columbus, Ohio

Some persons know all about anything right out of their own heads; but soldiers reconnoiter. The best cure for some persons, the only cure for their ignorant daring and for their ignorant censure of others, is a battle or two. Wimby Johnson had failed ignominiously as city school superintendent of the Peacevale school system, so ignominiously that he was glad to retire to its easiest school principalship and perhaps this is why his successor is recalled otherwise. And Wimby was 25 years younger and weighed one hundred pounds more.

It was said that one reason why Professor Wimby Johnson, school principal at Rudmor, thirty miles east in the hills beyond Peacevale, was chosen by President Fred Joneg of the school board in 1914 was that upon application for the vacancy, the cheerful owner of the cigar stand at Hotel Monopole and of various other properties by no means all so profitable, weighed twenty pounds more than himself. Perhaps one reason why Fred Joneg made money out of his race horses by betting on the best horse, whether his own or not, was because he never worried, and perhaps his own self-confidence in the cheerfulness of big men brought about his error in respect to Wimby Johnson, for Wimby was a worrier.

When Fred Joneg with his safe majority of one in the school board put across the election of Superintendent Wimby Johnson of the Rudmor schools, he said radiantly: "A man who makes a success of one thing can make a success of another like it." Professor Wimby Johnson had taught in Rudmor twenty years, exactly half of his life; he had never finished high school, but he had a lot of teachers' certificates by examination. Wimby desired the city school superintendency of Peacevale for many reasons—his wife was a native of Peacevale, he needed more money on which to live, and he felt that he had outgrown the three schools and seven teachers in Rudmor school district.

Richard T. Deems did not need to reconnoiter the battlefield and the battle-forces of the Peacevale schools. He had entered these schools as a contemporary of Alfred D. Pringle, being in fact four years older than the man who is remembered as "Old Dad" and the best-beloved of all school chiefs. They began their teaching in Peacevale in "The Island" ward school-Alfred Pringle in 1870 and Richard Deems in 1871. Alfred was principal and taught the eighth grade and Richard taught the seventh. Alfred was then twenty years of age, and a graduate of an old college in the East. Alfred was the only child of a widow whose husband, a Peacevale lawyer, had left to her enough money to live upon until her son grew up and could support her. The mother went with her boy to the East and ran a boarding house while he went to college; then she came back with him and helped him to marry and rear two sons and a daughter.

But Richard Deems went to a different four years' training, the Civil War, its battles and its imprisonment in the Southland. His parents owned the 700-acre farm to the northwest of Peacevale where Big Turtle Creek had worn through the uplands of the north and west of the great meadow that was nothing but the flood plain of Big Turtle Creek and of Lazy Brook south of it. A ravine ran through the Deems farm, and the Creek divided it in almost equal parts, with pastures and fields and woodlots in the uplands, and with heavy meadow lands below—bare and cold in spring though hot indeed in midsummer.

Every Spring as soon as the freshet waters had subsided in Big Turtle, Richard went with his two big brothers in their flat-bottomed boat down the meandering course of Big Turtle, through the meadow for more than twenty miles, past "old Peacevale" and "The Island" and into the swamps where, with big rubber boots, traps and guns, they had sport for several days. They came back with half a boat load of muskrat, fox, raccoon, opossum, beaver, and perhaps other pelts—once with a black bear, twice with deer, often with wild ducks or turkeys to eat, fat even after winter weather. The swamps covered twice as many square miles as the meadow to the north, and stopped the spread of Peacevale southward.

The eastern limit of the city was the wide Tolosee River, at ordinary stage thirty feet below the meadow. Beyond were rough hills along whose edge, from the clays there, bricks were made in lime-kilns. From summits and hillsides, timber was taken to build the homes and stores and mills of the city. Great raw gulfs in the hills showed where sand and gravel, sandstone, and limestone were taken out for building and operating the city. Yet meadow and uplands fed the people.

Of all this industry, "The Island" was focus, not center. "The Island" was the neck of land lying between the Tolosee and the lowest halfmile of the Big Turtle, which the enterprises of the "first city," old Peacevale before the Civil War, had connected by a canal, sixty feet wide and six feet deep and a quarter of a mile long. Southwest of "The Island," between Big Turtle Creek and Lazy Brook lay an equal area that had been converted from swamp by the plants of various mills and factories, greatest among them the Peacevale Iron and Coal Company.

All the waters about "The Island" were navigable; and the frontage was more than a mile long. In the period before Alfred D. Pringle and Richard T. Deems were placed there by the school board to help the women teachers in the lower grades of the schoolhouse of eight rooms, the residents of other parts of Peacevale called the boys and girls alike of "The Island," "wharf rats."

Every city has its worst school; it is needed as a dreadful warning, as a basis of departure, as a standard of comparison. "The Island" ward school provided this means of comparison

Uplands

Owen's

Gorner

Big Turkle Creek

MEADO

PETTING

PETTING

Swamps

Scale of 1. The Island

Waterways in flood

1. THE ISLAND 2. BRIDGE 3. CANAL

PEACEVALE AND ITS ENVIRONS.

in Peacevale. The children swarmed out of the tenements there, out of the janitors' attic homes, out of the watchman's yard shanties, out of the canal boat cabins—several hundred of them.

Two years later, Alfred D. Pringle, brilliant scholar and capable principal, was transferred to another section of the city; and Richard T. Deems ruled in his stead. Ten years later, City School Superintendent, John Timgaly, the first in the record and chosen in Centennial Year as much for his oratorical gifts as for his obvious teaching skill, persuaded the city fathers to build a modern schoolhouse on "The Island." There to this day the two schoolhouses standthe one converted into a warehouse, the other a fine example of the best that men then knew of schoolhouse architecture—with towers, a gymnasium, an assembly hall, and a high basement up above the swamp, and a dozen classrooms. Contrary to all predictions, the number of children in the school remains about the same. They remain longer with more of them in the higher grades, they come from other nationalities, many of them pioneering in America, pioneering in factories and mills where their fathers were peasants on farms in "the old country," whatever that was.

Perhaps it was Lame Willie Burns who brought Richard T. Deems into the light of some self-understanding. Lame Willie was the terror of "The Island" teachers—perhaps in this modern day we would say that he was "an endocrine case," his glands out of balance-but whatever the cause, the worst of the "wharf rats," and the very last one of them. He was seemingly a congenital criminal, a natural incorrigible, an Ishmaelite. He got his lameness because he disobeved a good mother of many children; he would chase after wagons and ride behind. Once a beer keg rolled off, and at the hospital, the surgeons had to amputate his foot. He was 7 years old then, but the accident did not cure him. At 10 years of age, he could be relied upon for any "deviltry"—so men called it—at school, on the streets, by the wharves, anywhere.

Principal Deems wasn't mean enough to whip a lame boy. It was true that he ruled by "the rod of iron" so much favored by the educational theory and practice of that period, but it was "iron discipline"-sharp orders, taking away privileges, staying in after school, notes to parents at home and requests for them to call and talk things over, drills, and drills, not corporal punishment often. "The Island" ward school had rules, and woe to the boy or girl who disobeyed them intentionally! But Lame Willie was a boy to whom woe meant nothing whatever: he could write for punishment the word "business" on the blackboard after school 1,000 times, and the next morning carry a pail of water up to teacher's desk and pour it over all her books and papers in order to rouse her temper, spoil her records, and ruin her hopes of a

On a fine Spring afternoon after this particular performance, Principal Deems escorted Lame Willie to his home and mother, and suggested that Willie come along with him to the Deems farm over the week end. Mrs. Burns was only too glad to spare him, that is, to get rid of him.

Lame Willie did not return to school until Autumn. Out there on the Deems farm, what with fishing in the pools of the Big Turtle, working on the hot lowlands after the run-off of the freshets, eating country fare, and living with adults and away from other boys, when Lame Willie did return to school, he was a

different boy—the boy who became a corporation lawyer and a credit to his family and city.

After that, Richard T. Deems was accustomed to say: "I had the only life a boy should live; I wish that every boy might have the same life." Most Peacevaleans did not take this sentiment seriously in the years that Deems served the city as teacher and principal. What the Peacevaleans saw was that Richard Deems became Colonel Deems of the Regiment that drilled in the City Armory, that he accepted a gift from his oldest brother of a large new office building in the "second Peacevale"—the brother had made a fortune far out West-and that he had become a director in the First National Bank. They wondered why he did not give up that school job; it paid only \$1,800 a year; and Colonel Deems was past 60 years old. Those who thought about the matter at all said that habit made him stick on. "After all, it takes about the same traits to make a good teacher and a good soldier; it's all discipline."

In 1888, when John Timgaly was elected probate judge of the county court, Albert D. Pringle succeeded him, being then 36 years old. Twenty-two years later, he died after a year of invalidism; and for most of that period, the people of Peacevale had called him "Old Dad." But no one ever thought of Colonel Richard Deems as "old." In 1910, in 1912, in 1914, Peacevale had chosen new school chiefs.

Upon every change, some persons talked of Colonel Deems; but he would not agree to accept even if elected. The higher salary meant nothing to him. And "The Island" ward school meant much. People who saw him marching about the streets of the city, teachers who knew him as the master of his school, boys and girls who with their parents were sometimes invited out to the Deems farm for a holiday, never thought of him as weakening with the years. He had straight shoulders and a straight back, his face was bronzed, his mustache, though white, close-trimmed and yet assertive, and he could ride a horse, drive a car, or shoot a rifle well enough. There were still in the swamps below Peacevale wild creatures to be hunted, and in the ravine and upland woodlots of the Deems farm other wild creatures, according to season. Above the city, there were still fish in the Big Turtle. The pools were deep enough and long enough for swimming. And though the dairy cows were milked by machinery and the fields were plowed by tractor, there was still physical work enough about the great farm-trees to be cut, machines to be repaired, hay to be cured and hauled in and stowed away in the great barns-to keep any man in condition who could spend week ends and holidays there.

Yet, when in September of 1916, Wimby Johnson and his charming wife went to the cigar counter to report to President Fred Joneg that to go on with the school direction could end in but one thing—sickness and death for Wimby—the call began in the schools and with the public for Colonel Deems as the new head. The city was already suffering from world war conditions.

There were thousands on thousands of new workers in the mills, factories and stores; the "second Peacevale" that had grown into the meadow far north and west of "the ancient city" of the times before the Civil War—a Peacevale that reverenced but did not understand the Peacevale of the pioneers—was itself being ringed about by a third Peacevale already threatening to overrun half of the farms in the meadow. The trains that roared through the rough hills and over the triple-way bridge across the Tolosee and into the big new union station a mile north of the canal by "The Island," brought vast supplies for Peacevale industries

and carried away to the east great quantities of finished war munitions for the nations at war with the Central Powers of Europe. The plant of the Peacevale Iron and Coal Company, that indicator of prosperity for all Peacevale, was operating on night-and-day shifts, seven days in the week. The First National Bank, whose largest owners, the Hazzards, were the same family in control of the Iron and Steel works, had immense and ever-growing deposits and loans.

Of the school board, Pat Hoge, contractor, was making money laying out new streets, running new sewers, and repairing old buildings. Carl Brock, realtor, was making money, laying out a new addition to the north where he had already built more than a thousand new houses. His fortune seemed made: no one understood what the after-war deflation would do to such fortunes. Gold money was soon to be in retreat; and paper was soon to flood even Amer-Frank Hazzard, the banker, of course, was making money. The wage-workers were buying silk shirts or silk stockings at the big department store of Thomas Dowlings, merchant, and school board member like these others. And Fred Joneg was making money buying and selling old buildings in the heart of the "second Peacevale," which men were soon to style "the mediaeval city."

How men differ! How causation from circumstance differs! How luck varies! No doubt, some say that there is no such thing as luck, but until men cease being struck by lightning, there will be what for human purposes according to human understanding is luck. "Old Dad" Pringle did his great work for Peacevale in his forties and early fifties Colonel Richard Deems was to be called upon to undertake far greater tasks in years that "Old Dad" never saw. And he was never to see what was for him "old age;" no year of invalidism at home for him before the end. Never a week without duties. He wore harness—harness of war as well as of work.

In March, 1917, after the school system of Peacevale had almost gone to pieces for want of control through the impassé upon the board, which either could not or would not come to a decision regarding the city school superintendency, Colonel Richard T. Deems assumed the duties. The social pressures upon him, patriotism, civic interest and concern, his own conscience brought him under the yoke. In a week the desk of the city school superintendent was cleared of accumulated business.

It was at this time that "Pro Bono Publico" wrote a letter in the mail bag columns of The Peacevale Daily News that ran something like this: "In the army, a captain controls 200 or more men; the colonel, fifteen or more captains; a brigadier general, three or more colonels; a major general, three or more brigadiers; a lieutenant general, three or more major generals; a general, several lieutenant generals; a field marshal, several generals; and a marshal, several field marshals, and a million or more men. But in the schools, we have only two

THE SCHOOL LIBRARY

The school library lies at the very root of the new pedagogy of individual differences. It is the heart of any program of socialized effort and individual responsibility. The new curriculum now being forged in a thousand towns and cities cries for tools of learning which shall be as good in their fields as implements of modern industry are in theirs. If the new urge toward education as a lifelong project is to become general the child must develop in the school library, attitudes, habits, and knowledge of intellectual resources which will lead him to use public libraries and to build up his own.—Joy Elmer Morgan, Washington, D. C.

ranks, and the public does not know the difference between even these, the principal and the superintendent. It is all one whether a school superintendent, the next officer to the school board, has one school or one thousand schools, fifty pupils or a million. And it is all one whether the principal has one teacher to help him, or one hundred teachers in one building with more pupils in it than in many an entire county. The city school superintendent of Peacevale has the work of a major general, the responsibilities of a millionaire in business management. But we call him a teacher, and imagine that he spends his days with 10-year-old boys and girls."

Rit Rudlphel of *The News* ran a paragraph of humor about this; and William Bird, cartoonist, signed a drawing by Bird's Bill that pictured Colonel Deems handsomely as a major general with his tens of thousands of school children under officers on parade. The humorist in "Rit's Ready Reasons" of the same issue said that Old Dad Pringle always reminded him of a family doctor with a medicine case attending to a big family all down with some epidemic in their beds; and called the city school superintendent "Surgeon General to the Schools."

Next day, the editor referred to all this in a long editorial, saying that the proper analogy of the city school superintendent to other functions of control were not the lawyer and his client, for there was no quarrel involved; not the physician and his patient, for the children were not ill; not the minister and his parishioners; not the architect and his clients; but the soldier and his troops, or the president of the corporation and his employees and directors.

All this matter came before the school board at the next meeting; Fred Joncg wished to know who had inspired it, but no one knew. He asked the city school superintendent what he thought of it. Colonel Deems replied that he had once heard General William Tecumseh Sherman say at a G. A. R. reunion that the first article of war is that the field commander is in full authority; hands off; and that the second article of war is complete, ready, active, and immediate cooperation from behind the lines with supplies and reserves; prompt help.

"But suppose," queried President Joneg, "your jockey does not ride well?"

"Get another," replied Colonel Deems.

In such fashion, the new superintendent went into service. In April, America accepted the war with the Central Powers. Men ceased to wonder what Andrew Jackson or Abraham Lincoln, Grover Cleveland, or Theodore Roosevelt would have done in the same circumstances, realizing that with any one of them in the White House the circumstances would have been different, conceivably they might have been worse, or even non-existent. Teachers got out of the schools-some to fight, some to nurse the wounded, some to make war munitions, some to build ships, some to forward supplies, all to do anything that seemed best to them and the government. For every teacher who went out of the schools, two more teachers had to be found for the work. Peacevale grew and grew and grew.

Medical clinics were extended. New lines of teaching were introduced. Some men said that the World War would last ten years. At some regular board meetings no quorum could be secured. Business and war, the business of war filled the imaginations of all men. Reading the newspapers became horrible. Reports inspired awe and amazement.

In the schools, after March, 1918, there was no coal. All the while, the work suffered for want of textbooks enough to go around; for

(Concluded on Page 115)

Heating and Ventilating Systems for the Small and Medium-Sized School Buildings

E. W. Riesbeck, Consulting Engineer, Chicago, Ill.

The subject of heating and ventilating is too large to treat in one article, so we shall discuss here only the requirements of small and medium-sized school buildings, and later take up the requirements for large school buildings, universities, and institutions.

When we consider that some kind of heat is required during nearly seven months of the year, and that in schoolrooms ventilation is a main essential, it becomes apparent that the subject is of importance, and deserves careful consideration. The heating and ventilating of schools has been a matter left to the architect or heating engineer, perhaps because school boards have found it difficult and have depended too much upon the architect or engineer. Studies by the writer have convinced him that many schoolhouses have inadequate heating and ventilating plants, and that much waste of coal results from poor design or improper operation.

What Coal to Use

A heating plant must not only be designed correctly to heat every room and corridor, but it must do this with a reasonable expenditure of coal. At the present time coal or oil, if such is used for heating, is more expensive than in former years. In most instances coal is purchased by the ton, and upon the recommendation of the secretary or engineer and so far as the quality is concerned without consideration of the heating value. Coal may burn very well, and cause the engineer little trouble in firing, and still such coal may be the most expensive to use for a given heating or power plant. In order to obtain the best results, coal should be purchased on the basis of its B.T.U. content, the amount of carbon in the coal, and the ash and moisture content. The term "B.T.U. content" means the heat units in the coal. Depending upon the kind and quality of the coal, this varies from 9,000 to 15,700 heat units per pound, a wide difference, it must be admitted. The unsuspecting purchaser who buys coal according to its free burning and coking qualities, often pays twice as much as necessary. Unless the B.T.U. content of coal is considered in relation to the price, there is no assurance that a given coal is economical.

The writer has in his possession analyses of the coal mined in the leading mines of the United States and will be glad to give to those interested, information on any kind of coal from any important region.

Various types of heating apparatus require different coal to secure the best results. For instance, a furnace must have different coal from that suited to a heating boiler, and the latter will require different coal from a power boiler. Draft and operating conditions have a great influence on the kind of coal which is best suited and therefore less costly for any particular heating plant. In the writer's experience it has been possible to make a saving of \$2,000 annually in one large institution by properly selecting the coal best suited to the boilers and purchaseable at the most economical price in the local market. Many similar savings can be made in schools by properly selecting the coal.

Furnace Installations

f

it

e

In small school buildings of two to four or six rooms, furnaces are installed to both heat and ventilate the classrooms. Two types of furnaces are widely sold in the United States. Of these the pipeless, or one-register furnace, is suited only to one-room schools. This kind of furnace discharges the heat through one register in the floor and seems to operate best when it is so located that the register is in the center of

the room. This type of furnace sometimes has a return pipe, leading from the room to the bottom of the furnace. The return serves the purpose of circulating the air in the room more rapidly and of thereby distributing the heated air more rapidly. The return pipe is best located near a door or near the windows where the leakage of fresh air will readily find its way into the return pipe. It may be questioned whether such an arrangement will furnish sufficient fresh air for a classroom filled with children unless some other additional means of fresh air is available.

One-register, or pipeless furnaces, are not adapted to school buildings containing two or more rooms. Many one-pipe furnaces have no return pipe and the cold air from the room must return to the furnace through the space provided on the outside of the register discharge. This type of furnace should be avoided in school buildings with more than one classroom. When it is adopted, a capable man should be sent to the furnace factory, or to the dealer, to study the furnace and to advise the best method of installation. It is desirable that the contract call for heating the classroom to 70 degrees at zero weather, within a certain time limit, and that this temperature be maintained at a certain expenditure of coal per day to be agreed upon. In this manner the manufacturer is held responsible for the proper installation of the furnace and for efficient results.

In school buildings of more than one classroom the familiar type of pipe furnace must be
installed. Pipe furnaces have a hot air pipe
connected to each room and have one cold air
return pipe running to the bottom of the furnace. The efficiency of a furnace depends
largely upon the care taken in installing a
supply pipe of proper size to each classroom.
This matter is generally left to the heating contractor who in turn entrusts it to the tinsmith.
Both the contractor and tinsmith in many cases
simply guess at the proper sizes and consequently one or other leader pipe is too small and
rooms are insufficiently heated.

To figure the size of hot air pipes for any room is simple if this formula is followed: First floor rooms, (1) divide the number of square feet of glass area in the room by twelve; (2) divide the number of square feet of outside wall area by 60; (3) divide the cubical content of the room by 800; (4) add together the results of the above computations and multiply the same by nine. The result is the area of the hot air pipe necessary for the room, expressed in square inches. For rooms on the second floor of a building use the same formula. but in place of multiplying the sum of the three original computations by nine, multiply it by six. The result is again the area in square inches of the pipes required for the rooms on the second floor.

The formula given holds good for maintaining a temperature of 70 degrees in rooms with an outside temperature of zero. Where the minimum temperature is ten degrees below zero, ten per cent should be added to the area of the furnace pipes.

Outside doors should be figured the same as glass surface in using the above formula, but since schoolrooms rarely contain an outside door, this element may well be neglected.

The area of the cold air return pipe must be equal to the combined area of the hot air pipes leading from the furnace. Frequently this is not the case, and the result is poor heating and

poor circulation. The air supply for any furnace may be taken from a point near an outside door, or directly from outdoors. In school installations, a suitable proportion of air should be taken from outdoors. The air should never be taken from the basement, or from a furnace room. If the pipe is too large to install properly, two or three return pipes must be used. For air taken from outside the building the cold air pipe should be 80 per cent of the combined area of the hot air leader pipes. The cold air supply to any furnace may be taken from the rooms in part and from outdoors in part. If this procedure is followed, it is advisable to install a damper in the outside air supply so that it may be cut off when school is not in session and complete recirculation may be possible.

Operating a Furnace

In the operation of a furnace care should be taken not to heat the fire pot to a red heat as red-hot iron tends to "scorch" the air, thus removing its vital constituents. Tests conducted by various universities have proven the fact. Joints between the fire pot and the air chamber should be quite tight to prevent the escape of smoke and gases from the air chamber. The essential point in hot air heating with a furnace is to keep the water pan filled. The air discharged from a very hot furnace is lacking in moisture. This moisture must be replenished by water, which evaporates and combines its vapor with the air. A 1/8" or 1/4" pipe with a pet cock should be connected with the water pan in order that the proper amount of water may be constantly supplied. The relative humidity of the room should be from forty to sixty per cent, with an average of fifty per cent. Excessively low humidity, or dry air, produces a sensation of coolness due to the evaporation of moisture from the body. Excessive humidity on the other hand, is equally undesirable.

Heating Systems for Schools

One or two-story school buildings containing more than six classrooms should be heated with a hot water, vapor, or steam heating system, because these produce more uniform results. All three systems require a heating boiler in the basement, with a capacity of sixty per cent greater than the combined number of square feet of radiation provided. This is necessary in order to take care of the warming period in the early morning and to overcome losses in the piping system. A heating boiler too small for the amount of radiation provided causes heat losses due to the forcing of the boiler. It increases the flue and chimney temperature and often results in a loss of from 25 to 50 per cent of heating efficiency.

In installing a piping system, the most important item to consider is the size of the main line, which should be large enough to supply the demand of the radiators. In many cases, the main is too small, resulting in pounding and insufficient heating. This is particularly true on one-pipe jobs, where the condensation from the radiator flows back to the boiler in the same steam pipe. When new installations are made, the hot water type of radiator should be used and the supply valve connected to the top of the radiator. The return line in this case is connected to the bottom. In school buildings, wall radiators are preferred as the floors underneath may be easily cleaned. This is not readily possible where the radiator stands on the floor. In hot water heating plants, a main pipe of the correct size is essential to prevent forcing the boiler and to obtain good heating results. A hot water plant is ideal for heating because of

its low temperature and the fact that it removes a minimum of moisture from the air.

The Selection of the Boiler

In a steam heating system, the most important item to consider is the selection of the boiler to meet specific conditions. The boiler should be sufficiently large to take care of an abnormal starting demand. In school buildings this need is greater than in most other types of buildings due to the fact that the fire is banked in the afternoon and the rooms become quite cool before morning.

Kinds of Steam Heating Systems

Steam heating systems can be divided into four groups: (1) One-pipe steam systems, (2) two-pipe steam systems, (3) vapor systems, and (4) vacuum systems. In a one-pipe steam system, the condensation returns through the supply pipe. Such systems are not suitable for efficient heating of school buildings. They produce heat where properly installed, but the cost of operation is greater than that of any other system.

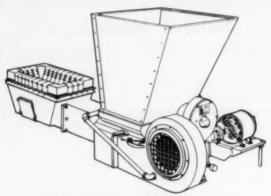
In a two-pipe steam heating system, the condensation is returned through a separate pipe. Quite often check valves are installed to close each radiator. If the piping system is not properly installed, the radiators fail to heat, or pounding is the result, due to the fact that the check valves have closed because of back pressure. A far better method is to install thermostatic traps on the return, thus providing a return trap on the boiler. Such systems give good results.

A vapor system for small schools is entirely suitable as it operates on a few ounces of pressure. The system is efficient in operation where the loss in long pipe lines is not sufficient to reduce the pressure very much, thus making it easy to heat the last rooms on the line.

The ideal heating system and the one which has proven most economical to operate is the vacuum system. Such a system may be installed in practically any school, large or small, and its advantages are many. If the vacuum pump is started in the morning at the same time as the boiler, a vacuum will exist in the boiler also. Let us say, for instance, that a vacuum of twelve inches is maintained on the system. At twelve inches of vacuum the water boils at 187 degrees and forms vapor, which is evenly distributed throughout the system. Comparing the low boiling point (187 degrees) with the ordinary boiling point of water (212 degrees), it will be noted that considerable coal is saved, with quicker and more uniform heating. Caution is directed against the use of vacuum heating systems which pull a vacuum on the return line only. A vacuum system properly installed should be able to heat a radiator below the atmospheric pressure. There are many vacuum systems heating ten and thirteen-story buildings with two to three inches of vacuum on the supply line with the outdoor temperature at ten degrees below zero. There is no reason why a vacuum system cannot be made to give good results if properly installed and checked. A great deal of money can be saved in school heating installations if this phase of the work is entrusted to competent heating engineers. vacuum system is noiseless in operation and can be applied not only to direct radiation but to indirect, and to vento coils as well.

Boiler Efficiency

There is a great difference in boiler efficiency, which should be taken into consideration when new school buildings are erected. Tests in different cities have brought out the following facts on the efficiency of the three types of boilers installed for heating purposes. The cost of operation for systems using cast iron boilers is 17.2 cents per square foot of radiation.



A MECHANICAL STOKER ADAPTED TO SMALL BOILERS.

In horizontal-return tubular boilers, the cost of operation is 11.1 cents per square foot of radiation. The cost of operation with firebox boilers is 8.7 cents per square foot of radiation. The tests prove that internally fired steel boilers are most efficient in operation.

Size of Chimney

A mistake usually made when a heating system is installed in small or medium-size buildings is that too little attention is paid to the proper size of the chimney. The writer has found in his experience that sixty per cent of the heating troubles which he has investigated, are due to the improper size or height of the chimney for the economical operation of the boiler. In order that this item may be given the proper attention, the sizes and heights given in Table I should be preserved and chimneys constructed in accordance with the table. When new buildings are erected trouble is often en-

TABLE 1 Chimney Flue Dimensions

Boiler	Chimney flue		Chimney	
Steam	adiation Water	Round	izes Square	Height—Ft Minimum
300- 600	300- 1,000	8"	8"x 8"	25' to 35'
700- 1,200	1.200- 1.800	10"	8"x12"	35' to 40'
1,300- 1,800	2,000 - 2,800	12"	12"x12"	40' to 45'
2,000- 2,500	3,000- 4,000	15"	12"x16"	40' to 45'
3,000- 3,500	4,800- 5,600	16"	16"x16"	45' to 50'
4,000- 4,500	6,400- 7,200	18"	16"x20"	45' to 50'
4,500- 5,000 5,000- 5,500	7,200- 8,000 8,000- 8,800	20" 20"	16"x20" 20"x20"	50' to 55' 50' to 55'
5,500- 6,000	8,800- 9,600	20"	$20'' \times 20''$	55' to 60'
6,000- 6,500	9,600-10,400	22"	$20^{\prime\prime}x20^{\prime\prime}$	55' to 60'
6,500- 7,000	10,400-12,000	24"	20"x24"	60' to 65'
7,000-8,000	12,000-12,800	24"	20"x24"	65' to 70'
8,000- 9,000	12,800-14,400	26"	24"x24"	70' to 75'
9,000-10,250	14,400-16,800	28"	24"x28"	75' to 80'
10,250-12,750	16,800-20,400	28"	24"x28"	80' to 85'
12,750-15,600	20,400-25,000	30"	24"x28"	85' to 90'
15,600-18,000	25,000-28,800	32"	28"x28"	90' to 100'
18,000-20,400	28,800-32 640	32"	30"x30"	100' to 110'

countered due to the fact that the amount of radiation is frequently taken as a basis for chimney construction. A fact quite frequently overlooked is that the boiler must have a capacity of from fifty to sixty per cent over and above the actual square feet of radiation demanded.

Stokers for Heating Plant

In a great many apartment buildings today automatic stokers have taken the place of hand firing in the operation of the heating plant, Such stokers are adapted for ordinary house heating boilers. They are automatically controlled and may be adjusted to handle from one to 100 pounds of coal per minute. Where janitors are employed to perform other duties, in addition to caring for the heating plant, such stokers have paid for themselves in a short time. Figure 1 shows a stoker operated by a ¼-horse power motor. Stokers are manufactured by various manufacturing concerns and have proven economical and satisfactory in operation. A cheaper grade of coal may be used with excellent results. In several cases slag has been used at a cost of \$2 per ton, where formerly lump or Pocahontas coal was used at \$7 to \$9 per ton. The two main advantages are economy

in operation and the elimination of the smoke nuisance. The following summary of a test in a stoker-operated plant, will give the reader some information on the results obtained:

Boiler rating efficiency increased to 200 per cent with coal at \$2 per ton, F. O. B. plant. Efficiency of the boiler was 78 per cent. The cost of the coal was cut down from 33 cents per 100 pounds to 15½ cents per 100 pounds of steam. A saving of \$11,432 per year was effected over the former hand-firing method. The operation was smokeless. The load changes were rapid and unusual demands for steam were encountered.

A test conducted in a public school on a stoker-operated boiler showed the following results:

Coal used was a low-grade Kansas slag. The boiler rating, 200 per cent. Boiler efficiency, 71 per cent. Flue gases 11.2 per cent C.O.2. Saving over hand-firing method was 442 tons of coal per year. The net saving was \$1515.

Oil-Burning Installation

A question often asked is whether it is advisable to install an oil-burning plant. Where a school building is in the west near an oil field, or near a refinery where oil may be purchased at a low price, oil heating compares favorably in price with coal.

In a recent test on oil burners, it was found that from 3 to 3½ barrels of oil are equal to one ton of coal. Oil tested at 19,500 B. T. U. per pound costs ten cents per gallon delivered. The coal used prior to the oil-burner installation under the same boiler and the same operating condition, averaged 12,330 B. T. U. per pound and cost \$8 per ton delivered. To produce 100,000 B. T. U. with coal cost 3.244 cents. To produce 100,000 B. T. U. with oil cost 6.76 cents. Both items were obtained in the same plant under the same conditions. If oil costs eight cents per gallon, the cost of producing 100,000 B. T. U. will be 5.41 cents. To bring the cost of oil on the same basis with coal, oil must be purchased at 4.5 cents per gallon.

In another test, coal was burned under a boiler for one week, and oil the next week. Both tests were conducted under the same operating conditions and at the same temperatures. The oil used was a heavy gravity oil and cost 4.4 cents per gallon. The coal cost \$8 per ton delivered. In test No. one, 1,127,700 gallons of water were evaporated during the test with coal during the entire week, and 53.91 tons of coal were used. In test No. two, 1,105,500 gallons of water were evaporated during the next week in the same boiler, under the same conditions, and 11,372 gallons of oil used. Cost of coal and removal of ashes on test No. 1, \$439.28. Cost of oil on test No. 2, \$500.36. In this test, 210 gallons of oil equalled one ton of coal. Comparing gas, coal, and oil the following summary is of interest:

The data gives the reader an opportunity to judge the situation and to compare the price of coal and gas in his particular community with the figures given. An advantage of oil firing is the saving of boiler-roam help on a low-pressure heating boiler where no engineer is required. With oil heating plants, better results may be obtained if the secondary air supply of the furnace is given careful attention. By secondary air supply is meant the air feed to the flame above the burner, at the point where combustion is completed. The air feed is frequently insufficient for complete exhaustion. In a recent test, the flue temperature (usually high with oil firing) was reduced from 528° F. to F. through the admission of secondary This caused the air supply valve to be closed considerably so that one-third less oil was consumed. This essential point is quite frequently overlooked by manufacturers of oilburning apparatus. In many plants, economizers are installed, which allow the hot flue gases to pass from the furnace before being discharged into the chimney. These waste gases heat the hot water necessary for domestic or cafeteria use.

Financing the Capital Costs of Education

Homer P. Rainey, University of Oregon

There are two major divisions of school costs. They are (1) the current operating costs and (2) the capital cost.

1. The Operating Cost
The current operating cost includes the annual expenditures for service and commodities, and the interest on money borrowed for the payment of current expenses. This interest includes that on teachers' and other anticipation warrants, and other short-time loans. It should be noted here that interest on money borrowed for the construction of buildings is a part of the capital investment. This is because it is a part of the construction cost and has no relation to current operating cost. It is a cost generated by construction of the building and should be so charged.

School accounting in the past has been almost entirely concerned with operating costs and capital outlay for building and equipment. Little has been done, however, in taking account of the major items of capital cost. It is, therefore, the purpose of this paper to deal with the

capital costs of education.

2. The Capital Cost

In the beginning a distinction should be made between capital outlay and capital cost as it will be used in this paper. Capital outlay has been considered as funds expended for new lands, new buildings, and new equipment. This classification is satisfactory so far as keeping a record of expenditures is concerned, but it is not satisfactory in building up a financial policy and program because it does not include certain necessary items of cost as will be explained presently. Since capital costs is a new term, this distinction can be made only by a description of capital costs.

There are, at least, four elements of capital costs which should be taken into account in perfeeting a financial policy for education. These four elements were suggested by the Educational Finance Inquiry in its survey of the four states, New York, Illinois, Iowa, and California. They are:

The annual accrual cost of plant and equipment extensions.

2. The annual depreciation cost of plant and

equipment. The interest cost of capital tied up in

buildings.

4. The ground rent of sites occupied for school purposes.

There are two reasons for taking account of these items of cost. First, because they represent actual economic values consumed in the products of education. The truth of this statement will become more apparent as each item is discussed separately. If it may be admitted here, the question comes "Why worry about them?" The point is simply this that education is now an economic institution in the broadest use of that term, and being such it is required to present to society an economic balance sheet for education whose credit and debit sides must balance, or show a surplus to the credit of education. In other words, education must return to society products equal in economic values to those which it consumes. "Economic values" is used here to include all such fundamental values as food, shelter, clothing, goodwill, happiness, and a better citizenship. The fundamental question involved is, is education a luxury which should be supported out of a surplus of earnings, or is it an economic and social necessity in which case it should support itself by producing values equal to those which it consumes? It is becoming an increasing conviction among economists and educational leaders that the latter is the con-

ception of education in a democracy. This conception of education is expressed by Strayer and Haig in their volume of the Educational Finance Inquiry entitled, "The Financing of Education in the State of New York," pp. 141-143, in which they say:

"That to increase the support of public education means fundamentally that the aggregate economic resources of the community must be increased, or that support must be diverted to education from some other object to which it is now devoted: that increased production is not always easy to accomplish; and that diversion always involves abstinence from objects formerly consumed, and, often, because of the specialized character of economic resources, involves a degree of waste.

"The quantity of additional support for education which can be made available depends, on the one side, upon the strength of the community's desire for what education has to offer, and the strength of its desire for alternative products, and on the other side upon the ease with which productivity may be increased or diversion effected. The fact that the community is increasing its support of public education is, in itself, no occasion for alarm, or for predictions of disaster. It is of the highest importance, however, that the community should realize what it is doing; that the decisions be purposeful and intelligent."

There are those who will object to this theory of education on the ground that it reduces education to pure materialism. It does this in no degree when economic values are defined as they have been considered in this paper. In the broad sense, any type of education would have economic value if society valued it more than it did other pleasures, conveniences, etc. For example, universal training in music or art would be productive of economic values sufficient to justify their cost if society regarded them as indispensable to its welfare or happiness to the exclusion of other types of training that might be desired. Society now controls the types of education offered, and will do so to a far greater degree in the future, and society, which supports education out of its public revenues, will see to it that we have a type of education adapted to its needs-in other words, which is economically productive.

This issue between the two conceptions of education becomes even more important because of the fact that there is no more free land available. There is no longer a frontier. This one fact which has never existed before in the history of the race is producing fundamental changes in the economics of the world. One of the most significant of these is the fact that there are no new sources of revenue available.



All revenue now comes ultimately from one source-the popular income. To increase revenue for schools or for anything else means fundamentally that the popular income must be increased. If income is not increased, the only hope for the continued support of education is that funds now used for other things can be diverted for the use of education. Much might be done in this direction, but we could not hope to continue to support public education long on this theory. The only alternative is that education must be productive of values equal to the amount which it consumes. If it does this, it can be supported indefinitely out of the popular income, otherwise there are serious questions as to the future of education.

The second reason for having to take account of these items of cost is that they vitally affect the financial condition of a school district and if they are neglected a bad financial adjustment for the district results. This will be made clear

as the discussion proceeds.

The Annual Accrual Cost for Extensions 1. The Annual Accrual Cost for Each This is a cost which results from an increase in school enrollment from year to year. For every additional child enrolled in the schools, the district will sooner or later have to provide building space and equipment sufficient to meet This increase in enrollment occurs annually. Thus the additional space and equipment necessary becomes an annual cost. It is just as much a cost of education for a given year as it is teachers' salaries and instructional supplies. If a city has an average of 2,500 additional children enrolled in the schools each year that city must provide building and equipment for that number every year. It cannot be postponed to future years. It is needed now. It must be provided now. Next year will have its own increase to care for. It is impossible to conceive of this as being anything other than an annual cost of education. It is incurred annually and should be provided for in the annual budget. If it is not provided for as it accrues, it accumulates from year to year and we are simply pushing on to future generations a definite part of our cost of education. The future generations will have their own accrual costs to provide for. The fact that this is an annual cost is best seen in the larger cities where a certain number of buildings has to be provided to care for increased enrollments each year. It is an annual affair with them. In the smaller cities and villages where the increased enrollments is not large enough to require a new building every year it is more difficult to realize that this cost is accruing annually and must be

If this cost is not provided for as it accrues, it accumulates from year to year, and when extensions are needed there are no funds available for that purpose. In such a case the district either has to levy a special tax assessment or float a bond issue to provide the necessary extensions. In either case those paying the bill are paying for values received by others and in no sense their own. If the district is already bonded to its limit (as many are) or if the tax rate is very high (which is true in hundreds of districts) it immediately finds itself in a bad financial condition and unable to provide for its natural growth because it is having to carry a burden of debt that should have been borne by those coming before.

In order to avoid an accumulation of extension costs and the possibility of a bad financial condition the amount of this cost should be calculated each year and the funds collected, and, if not needed that year for extensions, placed into a reserve, so that there shall always be in

hand funds for extensions when they are needed, and thus pay for this cost as it accrues.

How shall this extension cost be computed? It is best computed by multiplying the building cost per pupil by the average increase in enroll-Both of these factors are easily accessible in every well regulated school system. Architects can give very accurate estimates of the per pupil building cost for every type of school building. We know now what a given capacity building of a certain type will cost. This is known for elementary and for junior and senior high schools. Cities also can now estimate very accurately this annual increase in enrollment for the various school enterprises.

An illustration of this computation will make it clearer. For example, if in a given city annual increase in enrollment of elementary pupils is one thousand, and if elementary buildings cost three hundred dollars for pupil capacity, the annual accrual cost for elementary education in that city is \$300,000. And if the increase in high school enrollment is five hundred and the per capita building cost for high schools is five hundred dollars, the annual accrual cost for high schools is \$250,000. Hence \$550,000 should be placed in the annual budget to meet these needs.

The neglect to account and provide for this cost in the past has contributed greatly to the present bad financial condition of many districts. This cost has been allowed to accumulate in the form of bonded indebtedness, and current costs have been constantly increasing to the point of taking all available revenues so that many districts cannot pay their debts and finance their present programs adequately. The only practical course for such districts to pursue is retrenchment, and this is what many districts at present are doing. Retrenchment is certainly not to be desired. To retrench is to retrogress, and the psychological effect of a program of retrenchment upon the district is deadening. This condition must be averted in the future by sound educational financing taking these factors into account.

 Depreciation of Buildings and Equipment
 A. Depreciation on Buildings

 The application of the principle of depreciation to educational finance is almost unknown. The Educational Finance Inquiry has made a beginning in its application. The educational economics of the future must give it an important place. It has become an established principle in the business world, especially since the introduction of the income tax. School plants wear out, become obsolete, and inade-quate, and have to be replaced. The proper function of a depreciation charge is to provide for the replacement of "expired capital outlay."1 It should be borne in mind that a charge for depreciation is not a charge for the future use of capital but for capital which has already been used up. It has been pointed out already that unless education replaces what it consumes, it falls back upon the "surplus of earnings" theory. The Federal Trade Commission (Fundamentals of a Cost System for Manufacturers, July 1, 1916, p. 12) says that depreciation is the most important overhead expense. Mr. Leake,2 a prominent English economist, says that to neglect to refund expired capital outlay results

- Overstatement of annual profits and understatement of costs.
 - Consequent shortage of actual capital.
 - Inflation of share capital.
 - Obscurity of financial position.

In regard to the first point Saliers1 says that when depreciation is neglected costs are understated and profits overstated and spendthrift

consumption is encouraged. This is in turn followed by a period of contraction when retrenchments are made to place production back upon its previously efficient basis." The same law is operating with respect to education. The bonded indebtedness of school districts is a good example for the effect of its operation. School buildings wear out and have to be replaced. There are no funds in hand (replaced expired capital) to replace them. Bonding is the only resort. Some districts have become so heavily bonded that they are forced to retrench, and even to give up some of their school enterprises.

There are two important features of depreciation. The first is that a depreciation charge represents capital which has already been consumed or used up. The common argument for a policy of bonding for new buildings is that the future generations should help pay for the building because of the use they will get of it. This argument fails to take into consideration the fact that if the new building is to replace an old one, the present generation is asking the future generation to help them pay for the building it has used up and has failed to replace. It should be the responsibility of each generation to pass on to the next the property which it receives in as good condition as when it received it. If it does not do this, it is not bearing its full share of the burden. It is consuming property which it received and leaving the succeeding generation to suffer this loss. This responsibility for replacement cannot be escaped. If corporate business did not operate upon this principle it is doubtful whether the business would be successful through the second generation. If the business is manufacturing, the plants must be kept up to operating facility

danger of public funds being squandered. It would seem, however, that good public financing of education must find a way to meet this objection of impracticability.

How shall depreciation be computed? The most generally accepted way is to determine the life period of the buildings and equipment, and to compute it on that basis, charging each year with its pro rata share. The Finance Inquiry has given us the best estimates on the life of permanent buildings. The opinion of a large number of specialists in the field was first secured. They then placed their figures before an accepted real estate authority and secured from him an estimate of the probable life of each type of building. He ratified the use of 75 years as a single figure for the life of school buildings.

The next question is, shall depreciation be figured upon the original cost or upon the replacement cost as a basis? It seems better to use the replacement value for the reason that most probably, over a long period of years, a reserve based upon the original cost will be entirely inadequate to replace the building. There are also limitations to using the replacement cost as basis. Over a period of years in which building costs are rising, the cumulative depreciation reserve will become steadily less than the amount required for the building at the end of the period. Conversely, over a period of years in which building costs are declining, the reverse tendency will appear. It is most probable that over a period of 75 years a fundamental tendency will appear, and it is possible by refined methods to make the necessary corrections. The table below shows the appropriate entries for the depreciation reserve on a high school building.

TABLE I

		* * * * * * * *		
The A	appropriate Entries for the	Depreciation Reserve on	a High School Buildi	ng
High School Capital Accounts	Building Occupied Sept. 1, 1922	Cost of Building \$4,000,000	Estimated life, 75 years Depreciation, 14%	
As of	Replacement appraisal	Annual Depreciation	Appraisal fees	Cumulative Depreciation
June 30, 1923 June 30, 1924	\$400,000 375,000	\$5,333.33 5,000.00	\$50 50	\$ 5,383.33 10 433.33

at all times. Railroads offer a good illustration. The tracks, rolling stocks, and all equipment must be ready for efficient service at all times. This means that rails and ties, engines and cars, etc., which are worn out, must constantly be replaced by new ones, so that there shall be no interference in the business. The same principle operates with respect to financing public education.

The second important feature of the depreciation charge is that it is also accruing annually and therefore should be provided for annually. If school buildings become obsolete with one year's service, it is evident that their replacement would be an annual charge to the cost of education for that year. The fact that they do not have to be replaced for fifty or sixty years does not eliminate the certainty that a certain portion of their value is used up each year. A typewriter for the commercial department must be replaced at the end of three, four, or five years' service. A boiler for the heating plant has to be replaced at the end of ten, twelve, or fifteen years. Certainly a portion of its value is chargeable to each year's service. Hence, depreciation on buildings and equipment is an annual cost of operation.

What shall be done about it? The essence of the depreciation charge is that a reserve shall be built up so that there shall be in hand at the end of the life of a building a sum sufficient to replace. The greatest argument against such a policy is its practicability. It would be difficult in public business to build up an educational reserve fund over a period of years. The great body of taxpayers and voters could not be made to see the wisdom of it in the first place, and, in the second place, there is always the great

B. Depreciation of Equipment

School equipment also wears out and has to be replaced. A reserve should be set aside to provide for the renewals when they occur. It is the common practice among schools to charge equipment to capital outlay, making no distinction between renewals and new equipment. Some schools make the distinction. If a distinction is not made, an inventory made several years later will disclose in the books much more invested in capital equipment than could be found really to exist. This is because charges are being made to "capital outlay" year after year and no account is taken of that part of the equipment which is worn out. Equipment that has worn out has not been charged off and the result is that the books show a large charge to funds invested in capital which does not at the present time exist. The writer was told by an official of the Independent Telephone Companies of the United States that many telephone companies found themselves in just such a position before they began to use the principle of depreciation on equipment. The reserve should be carefully kept, and care should be taken when equipment is bought to make the correction charge either to "new equipment" or to "renewals." If it is charged as a "renewal," it should be charged against the reserve. If it is charged to "new equipment," it should be charged to capital outlay.

It may be rather difficult for several years to get a good working estimate for the life period of the different articles of equipment used by a school, but with a little diligence and care very close estimates can be obtained. Once a depreciation list is obtained it will serve for the future, and it can be added to from time to time. Tiffany's "Digest of Depreciation" can

Press, 1922.

2"Depreciation Principles and Applications." Ronald Press, 1922.

2"Depreciation and Wasting Assets." Henry Good & Sons, London, 1912.

be used as a guide. This is a work prepared for the use of fire insurance adjusters. It has appeared in 28 editions, and for many years has been the standard authority in all parts of the nation. It is used by architects, builders, contractors, machinists, general, special, local agents, and adjusters of insurance companies. The book has one limitation for school use, namely, that it gives the estimates upon classes or groups of articles rather than upon individual articles. It is possible, however, to get some very good estimates on the life of various articles from principals, business managers, buyers, engineers, and janitors. An estimate on the life of library books, for example, can be secured from one who has had many years of library experience in some of the large libraries of the country. Since this is only a beginning in this field for education these estimates at first will necessarily be only approximations, but they are reasonably reliable.

The method for computing the depreciation on this kind of equipment is to take the best estimate available for the life of a given article and put into a reserve each year enough to cover the annual depreciation on it, so that at the end of its life there shall be enough funds in reserve to replace it.

3. Interest on Capital Invested

Since education is being considered from the economic point of view, it is proper to charge to the cost of education interest on the amount of capital invested in buildings and grounds. This makes it necessary that careful accounts be kept. This charge is, of course, only a book charge, but it serves as a constant reminder that we have that much which must be made good to society in the educational product. The best rate for this charge is the current rate on tax free securities in the minimum risk class, or the interest on long-time loans. This rate is used because it represents the most conservative estimate of the rate the money would bring if it were not invested in education. Savings bank investments are also a good guide.

4. Ground Rents

The fourth, and last, factor of capital cost of schools is the ground rent of sites occupied for school purposes. It is an economic cost and should be charged to the cost of education because the ground held by schools is withheld from other productive enterprises. A school occupying a valuable site is using a part of the community's assets. Land is a part of the social capital. If this property were in private hands it would be contributing to the popular income. The school is thus depriving the community of large sums in taxes and income. This position is also taken by the Educational Finance Inquiry Commission.4 It is just, therefore, that the use of the land should be a charge to the cost of education. It is a cost that education must make good to the community in its

This ground rent charge is only a theoretical one since it is both charged and credited to the community, but it is important that it should be made in order that we shall always remember that it exists. It is important that it be taken into account because there may arise instances in which it has a very great effect upon the financial condition of the community. For example, a high school building may be located near the business section of a small city. The city may have a period of rapid industrial growth in which case the land occupied by the school would become exceedingly valuable for business purposes. It is possible in such a case that the community could save itself money in taxes by scrapping the building and disposing

"Tiffany's "Digest of Depreciation," 28th Edition, H. S. Tiffany & Co., Chicago.
"Financing Education in the State of New York, p. 80

of the property and moving to cheaper and even more desirable quarters. This is sometimes done even by industrial plants. Churches sometimes find that their property becomes too valuable to hold because of the encroachment of the business or industrial district upon it. The same is also often true of residential property.

It is for this reason that a school district should always take the ground rent into account. Only a certain amount of land is required for a school building, and it is economical for the district that its buildings should occupy the cheapest land available, yet land that will not affect the efficiency of the school. No one would advocate maintaining a public school in the Loop District of Chicago because the land is too valuable for other purposes.

How shall the ground rent be computed? It should be computed on the basis of what the land will yield to the community in income and taxes if placed in private hands, because that represents what the school is deriving from the community. The best index of this is the actual rent return on land in the immediate vicinity exclusive of rent on betterments, such as buildings. Since most land in school vicinities is occupied by buildings, it is necessary to separate the rent chargeable to each. This is done by getting a separate appraisal of the value of the land and of the buildings Then get the ratio between these two values and when this is done find what rent is being paid per year for the use of the property, and charge to the land its share on the basis of the ratio found above. For example, if a lot is valued at \$2,000 and the house and betterments at \$10,000 and the rent for both for a year is \$1,200, the land is charged with onesixth of this amount (ratio 1:5), or \$200. This is ten per cent return on the land. The cost for upkeep must be subtracted from this amount before the rental value, including taxes, is known. A number of such examples should be taken from the immediate vicinity of the school before a figure for that school is determined.

The Fallacy of Treating Capital Outlay as Capital Cost

Attention has already been called to the distinction that should be made between operating cost and capital cost. That distinction has an important bearing with regard to the whole question of capital and depreciation. Money spent for an item for capital outlay should be charged to capital invested only when it is purchased for the first time. An illustration will serve to make this clear. A boiler for the heating plant is put in when the building is made. The charge is made to capital invested. Depreciation sets in, and in ten years a new boiler is installed and is charged, not to capital invested, but as a "replacement" and the charge should be made against the depreciation reserve which has been set up on the boiler. If no reserve has been set up it would be better to charge it to operation than to charge it to capital, unless the first boiler was charged off, in which case the second one could be charged to capital. If, in the second instance, a larger and more expensive boiler is set up, the difference in price should be charged to capital invested. If the old boiler has a scrap value, such should be added to the reserve. Only in this way can accurate accounting of capital be obtained. Otherwise obscurity of the capital condition results, and the "capital outlay" has no real meaning. Not only schools, but many industries, have not until recently begun to make this important distinction, and adopted the principles of depreciation.

The Theory of the Capital Reserve

The whole argument with regard to capital is that it should be replaced or restored as it expires. This seems a fundamental conception. The two items of capital cost which are affected

OH GOD, GRANT US UNDERSTANDING

The work of the world is to get things done. What the most capable individual alone can do is so little that cooperative effort is the only way to get the world's big jobs done.

To work in proper cooperation is good citizenship. It is the best citizenship.

To make good citizens is the job of the schools.

It is the most important job the country has

When this job is well done, every other task will, in time, be successfully accomplished.

Now the most difficult achievement in the world is to hold any mass of people to a given dea long enough to get it materialized.

Human nature always tends to gravitate to its lowest levels. It so dissipates, uselessly, the most precious energy in the world.

The task of big executives is to do to the human nature under them, what our conduits do to natural forces; that is, to hold the precious human nature under sufficient pressure, long enough, to make it deliver enough force at the desired point, to accomplish a given work.

As the steam, gas, air, water or electricity that is conveyed in conduits, will always escape from leaks with destructive waste, proportionate to its pressure, so it is with our human nature, the greatest force in the world.

Now understanding would be the greatest con-server of the most precious asset that we have.

Ever since the first builders' strike, that followed the confusion of tongues at the Tower of Babel, lack of understanding has destroyed almost as fast as we could create.

There has been a constant race between creation and destruction, with so little leeway be-tween them, until our great country reached its present rate of production, that often more was destroyed than we created in any given period.

War is a result of lack of understanding. All other destruction comes from the same

So that understanding is the most precious gift that humanity could receive.

Love, without understanding, is more cruel and destructive than hate.

Love, with understanding, raises human nature to its nearest approach to the Divine nature.

What is understood is always loved, if the understanding is perfect enough.

Understanding would show us that disappointments are only preparations, if properly accepted. It would show us that grief is life's tempering

process, that does to our imperfect human nature, what our machine shop processes do to raw materials, when tools are made.

Now the heading of this article is a universal prayer that every human being can wholeheartedly offer, without reservations.

If we could open every class, every day, with this prayer, the concentrated attention of our future citizens, on the most valuable gift that could come to humanity, would in due time, make the gift materialize.

Therefore, it is proposed that every board of education:

1. Erect a bronze tablet carrying this prayer, over the chair of its president, where it will always be in plain sight, and that it open every session by reciting it aloud.

2. That a similar bronze tablet be placed over the teacher's desk in every classroom in every school of our great country.

That at the opening of classes, at the same identical time, each day, the above prayer be recited aloud in unison, so that as nearly as human arrangement will permit, the entire school organization of the country would recite it in unison.

Words have dynamic power.

Thought is the greatest dynamic force in the world, if it is sufficiently united and harmonious.

With our army of school children, getting into daily step, to the measured cadence of this prayer, it would be a very short time, as time goes, until we had the whole human race marching in step in its ceaseless journey from God, to

Oh God, grant us understanding.—J. M. Robb. (Reprinted by request)

are: (1) the annual accrual cost for extensions of plant and equipment, and (2) the annual depreciation on buildings and equipment. These (Concluded on Page 140)



School Board Journal

WM. GEO. BRUCE

Editors

EDITORIAL

LOCAL SCHOOL BOARDS AND STATE LEGISLATURES

There has been a tendency in recent years on the part of state legislatures to engage in law making whereby they have assumed greater authority over the local boards of education. This authority has not merely confined itself to the regulation of financial and administrative affairs, but has frequently gone into the realm of purely educational matters.

In many instances wise and timely innovations have been effected, but the general mania for law making has also led to the superfluous, and even the vicious, in school control. Legislators, who in the main are laymen, have told the professional educator what must be taught in the schools, and have at the same time in an arbitrary manner invaded the domain of local self government.

And yet state legislative bodies are strictly within their rights when they regard themselves, in their collective capacity, as a sort of upper house—in brief, a school board of school boards. Under the law the schools are the concern of the state, and thus it follows that the local administrative bodies act under a delegated power.

It therefore follows, too, that those who are dissatisfied with the local school boards may appeal directly to the higher state body for redress. While this is not deemed regular, or in a courteous spirit towards the immediate authority, it is nevertheless logical and permissible.

There are instances on record where boards of education have been afflicted with inertia and stagnation, and thereby have failed to respond to the progressive spirit of the community. There are also well known instances where the rights of the professional factors, in the matter of compensation and employment, were grossly ignored. In such cases, expediency demanded redress at the hands of the higher body. On the other hand, citizens have arbitrarily gone to the state legislature for no other purpose than to embarrass the local school body, or to promote measures which have fostered personal rather than public interests.

The subject of legislative appeal has become an issue in Milwaukee, Wisconsin. The teachers of that city induced the state legislature to reduce the tenure law from four to three years. The school board was opposed to the measure, and its president now recommends that teachers who lobby for legislation, not approved by the board, be dismissed. The teachers resent this attitude as an infringement upon their rights.

The Milwaukee Sentinel comments upon the situation as follows: "The school board lobbies for legislation which it has decided is necessary and desirable. The teachers lobby for legislation which they have determined is for the best interest of their profession. Obviously the viewpoints clash. The public is apt to inquire who is lobbying for the third and most important party in interest, the children, for whom the school system exists and is managed. How far

are the interests of the children lost sight of in the battle between the school board and the teachers?"

The proprieties of the situation, no doubt, demand that the citizenship, and more particularly those identified with the school system, ought not to appeal to the state legislature unless such appeal, if legitimate and reasonable, has been wilfully ignored by the local school authorities. To ignore those in immediate command and carry the petition directly over the heads of those who employ them, is bound to lead to feeling and disagreement. The right of appeal must, of course, be recognized, but there is also an orderly way of going about it. Time, place, and persons are factors which cannot consistently be ignored.

On the whole, there is this to be said. The American system of popular education has received its best impulse and impetus through local initiative. The fact that the schools have been close to the people and have been permitted to exercise a voice in their character and control, as well as pay for them, has been entirely in harmony with the American genius, and has tended to give this country the best schools in the world. Centralized control is contrary to the fundamentals of our government, and a departure from local self control in school affairs should not be engaged in unless the educational interests of the youth make such a course imperatively necessary.

The schools are properly the concern of the state, but in delegating the immediate control to the locality, there must also be a due regard for the rights and prerogatives of those who are responsible for their success or failure. The checks and balances which are constantly applied have served to effect the desired equilibrium. The interest which a local constituency manifests in its schools must be fostered and stimulated, rather than disturbed, if the best results are to be obtained.

SURPLUS OR SHORTAGE OF TEACHERS—WHICH?

The statement has appeared here and there in the public press throughout the country in recent months that a transition from a shortage to a surplus of teachers had come about. Well informed schoolmen, who have been interviewed on the subject, have been rather guarded in their expressions on the subject, and while admitting that there is an apparent over-supply of teachers, have been reluctant to submit definite figures.

The extent of an over-supply of teachers should, no doubt, be definitely known in order that a proper course of action may be established. If the situation becomes acute then it follows, too, that one of two things, lower salaries or higher standards, will in the natural order of events come about.

Educators are agreed, and an enlightened public sentiment supports that agreement, that higher standards rather than lower salaries must become the order of the day. That being true, a complete knowledge of the situation must be had if timely action is to be engaged in.

According to authentic figures submitted by a number of state departments, and assuming that the same ratio of teacher unemployment reported by them holds good in other states whose educational chiefs prefer to remain silent on the subject, a reasonable estimate may be made. This warrants the conjecture that fully twenty thousand persons in the United States have professionally prepared themselves in a greater or lesser degree to teach school and are awaiting positions.

Several states report that the number of teachers out of employment ranges all the way from 300 to 1,000 in each of these states. A western state school official ventures the statement that from 3,000 to 5,000 persons in his state hold teachers' certificates who cannot ob-

tain positions. All reports are qualified with the statement that the surplus applies to the elementary and not the high school teachers, and that the surplus is manifest in the cities rather than in the rural districts.

The general statement may cause some surprise, but in order to measure the true merits of the case we must distinguish between teachers who are adequately prepared to teach school, and those who are not. State Supt. James M. McConnell of Minnesota, says: "In my opinion, the number of unemployed teachers who are properly qualified is greatly overestimated." State Supt. John M. Matzen of Nebraska, says: "Most of the surplus teachers fall within the class of sub-standard teachers, that is, inexperienced teachers who are prepared to teach in rural schools only. We have no surplus of experienced, qualified grade and high school teachers."

The conclusion must be that there are now employed in the school systems throughout the country poor teachers as well as good teachers, that there are more poor than good teachers out of employment, and that if every poor teacher now employed were to be replaced by a good teacher, a decided shortage of good teachers would be revealed.

To know the exact facts, however, can lead to some constructive discussion tending toward (a) more rigid entry requirements for teacher training institutions, (b) higher qualifications for certification, and (c) higher standards of achievement in service.

If the supply of teacher service has reached a stage where it can be vastly improved, and at the same time avert the false economy which a cheaper service implies, then those in authority must turn their efforts in the direction of the necessary regulation. The law of supply and demand must here serve to bring about higher standards of service rather than lower salaries. An intelligent public sentiment will support this contention. If the educational leaders will not apply the law of supply and demand in the interest of higher qualification then the public will demand the application of that law in the direction of a cheaper and inferior service.

PURCHASING SCHOOL SUPPLIES AND EQUIPMENT.

This subject has been discussed from so many angles that it would seem superfluous to say much more about it, and yet with the passing of time new approaches are arrived at. Nothing radically new can be or is evolved, but some one occasionally arises to emphasize this or that phase of the subject and bring out some worthwhile point.

It is certain that no one can lay down definite rules applicable to every purchasing officer. The experience of one officer, however, may serve as a guide to the many. Or again, the experience of the many may serve as a guide to the one who finds the purchase of supplies and equipment a new task.

A recent writer on the subject lays stress upon the source of supply rather than upon the obvious method of providing that supply. He assumes that the needs of the school system are readily tabulated, that while the purchasing officer knows what to buy, he does not always know where to buy most advantageously, or what rule the buyer should apply to the seller.

He therefore argues that the buyer should have at his service a list of sellers who embody the following requirements:

- (a) Financial ability to perform agreements.
- (b) Past performance on contracts.
- (c) Ample merchandise stocks of staple supplies and equipment.
- (d) Authorized representatives of approved quality products.
- (e) Ability to recommend proper supplies from an educational standpoint.

(f) Permanency of source of supplies, guaranteeing replacements and addition to equipment.

(g) Business practices and reliability from an ethical standpoint.

The writer than says that "in most territories there are two or three dependable school supply houses within the state. These school supply houses are merchants and jobbers, combining large stocks of staple merchandise with sales representation of quality lines of equipment. There will be a half dozen or more sales agents, only some of whom are dependable but none of whom carry any stocks of merchandise and are very seldom identified with the larger and better manufacturers of school equipment. There will be a flock of commission and specialty men with their entire office and outfit in their head and a small hand bag. There will be a few manufacturers offering their merchandise by mail direct. It is necessary for the superintendent to weed out undesirable representation and establish his source of supply after due deliberation and ex-

He comes to the conclusion that "a survey of the entire field of manufacturers, school supply people, stationery houses, paper houses, specialty and commission salesmen and manufacturers' agents incline me to believe that the safest source of supply and one which should be seriously considered is the school supply house that carries ample stocks of merchandise designed for school use only, travels a number of men trained to the educational viewpoint and having financial responsibility and business ethics that make them desirable connections. There isn't any question in my mind that those firms occupy an important place in our educational scheme."

The conclusion must be that the evolution which has taken place in the field of school supplies and equipment has brought into service approved sales methods and a proper system of distribution. The itinerant peddler who once meandered from schoolhouse to schoolhouse and buncoed school trustees into buying useless school paraphernalia at exorbitant prices, is a thing of the past. The distributor who carries a stock of utilitarian supplies, who employs capable salesmen, familiar with school needs, deems honest goods and honorable sales methods of prime importance, and who is able to render prompt service, has come upon the scene and is now generally recognized by the school public.

THE DEDICATION OF NEW SCHOOL BUILDINGS

The opening of a modern school structure is usually attended with appropriate ceremonials and much rejoicing. The new edifice is an expression of town pride and local patriotism. It notes the aspirations of the community in the direction of progress, and is typically American in spirit in that it exalts the idea of a trained citizenship and architectural advancement.

The ceremonies which attend the dedication of schoolhouses vary considerably as to program in the several sections of the country. Sometimes the architect or contractor functions in the formality of delivering the keys of the building to the president of the board of education, who in turn delivers them to the principal of the school. The program usually begins with music and song and ends with more music and song.

The true purpose of the dedicatory exercises is interpreted by the dignitaries who are called upon to grace the occasion with their presence. Sometimes a college president or the state superintendent of public instruction discusses the problems of popular education. In the absence of such men, the superintendent or principal takes up such a discussion, or the president of the board of education assumes the task. The history of the school system or the school district is interestingly told, the character of the man whose name graces the school is instruc-

tively recalled, or the educational mission of the new structure is explained.

The modern school building is unquestionably an architectural achievement which not only adds to the physical attractiveness of the town, but which also emphasizes the social progress of its people. It not only notes the material advancement, as expressed in tax ability, but it marks a milestone in school administrative effort. While the modern schoolhouse constitutes the architectural gem of many communities it also reflects the finer impulses and ambitions of the public mind and heart.

There are but few occasions when the general public is brought into intimate touch with a schoolhouse. Graduation exercises which usually come but once a year afford such occasions. But, a schoolhouse dedication is far more rare and auspicious. It not only shows the taxpayer, for one thing, what he has been paying for, but it also inculcates in his mind the finer and nobler side of the cause of popular education.

THE GENIUS OF MODERN SCHOOL ARCHITECTURE

The school architect of three-score years ago was a sort of a peddler of ready made plans. He was decked in fine clothes when he appeared before a city board of education and wore his shabbiest when he came before a rural school board. He carried under his arms a series of colored perspectives, and a few sets of first, second, and basement floor plans. But, last and not least, he was loaded with a well-rehearsed speech. The color of his pictures and the climaxes of his speeches were his best assets. Upon these hinged the success or failure of his vocation.

But, that day is gone by. The itinerant architect who dispensed plans of the dress pattern type, with its harsh turrets and towers, its ugly roofs, and forbidding façades, is no more. A new order of things has come into play. The genius which rears a modern school building is no longer dependent upon colored drawings or confined to any one mind or person. It contemplates special knowledge which constitutes the reflex of several minds and men.

The new order of things here does not begin with the fancies of an architect, but with the housekeeping side of the school. It is no longer the task of picking out the prettiest among the architect's pictures, but to comply with the schoolmaster's demands in providing housing for the expeditious operation of the school plant.

Time and experience has taught that there are schools and schools, and that the four, eight, or sixteen-room building of one town will not serve every other town. Site conditions, courses of study, and what not, enter into the type and character of school to be erected. Again, the tremendous expansion of school activities, and the variations recognized in certain localities, call for special types of schoolhouse planning.

The genius of modern schoolhouse construction really begins with the school superintendent who knows what kind of a building he really ought to have. He is the responsible operating manager of the school system and must have a voice in the manner of housing, the equipment and the working personnel. He may draw upon the principal who in turn draws upon the teachers, but the fact remains that the scientific planning of schoolhouses has its beginning with the professional workers in the schoolhouse.

Thus, the modern architect takes recourse to the schoolmaster, studies the educational needs of the locality in its several ramifications, before he begins to draw plans. In doing so he becomes the intimate counselor of the school people, ascertaining to the last detail the essentials of an efficient operating plant. This done, it becomes his task to deal with economies of space and orientation, and to weld the various units into a comprehensive whole.

It is interesting to note also that, while the architect of today brings to his service the testimony and counsel of the professional factors in planning a school building, he also knows how to coordinate modern engineering skill to his scheme. This skill not only touches the science of construction, but of equipment as well. The problems connected with electrical appliances, in acoustics, in lighting, in heating and ventilating involve expert knowledge.

The point to be noted here is that in the field of modern architecture the American school is a distinctive achievement. It not only reflects the genius of the schoolmaster, the architect and the engineer, but it also gives expression to the finer motives and aspiration of the people as a whole.

THE CAMPAIGN AGAINST VANDALISM ON SCHOOL PREMISES

A few years ago there came some startling reports on the vandalism committed on school premises, more specially during the vacation months, and the general wilful destruction of property. Those entrusted with the renovation of school buildings during the summer months were confronted with broken windows, and other items of damage, committed by reckless boys, which ran into thousands of dollars.

The evil had assumed such proportions in cities like St. Louis, Chicago, Minneapolis, and New York, that the school authorities were compelled to take official cognizance of the same, and seek the remedy. And the remedy was found. At least, the evil was considerably reduced and, in instances, brought down to a minimum.

The remedy applied assumed a twofold character. The school authorities primarily manifested a firm attitude which meant that the guilty would be subjected to punishment. A few prosecutions had a wholesome effect, but by no means eradicated the evil entirely. Moral persuasion had to be applied as well.

There is the incorrigible who glories in an act of vandalism in which he remains the unapprehended hero, and the mischievous boy who is actuated by mere thoughtlessness. The latter is more numerous than the former and in the aggregate does the biggest damage.

In New York City in the month of July 21,000 panes of glass in school buildings were broken. Then an appeal made by the school authorities followed and during the succeeding month the depredations were materially reduced. Two years ago the damage done during the summer season amounted to \$80,000. This year it has been considerably less.

Superintendent William J. O'Shea of the New York City schools prefers the method whereby children are taught to respect school property, as they would church or home property, rather than resort to public prosecution, or punitive measures.

It follows, however, that where the destruction of school property has assumed unusual proportions radical measures must be applied. At the same time it must be conceded that it is far more preferable to eradicate the evil by instilling on the part of the pupil a higher sense of duty and decency, and a proper respect for law and order than to call the aid of the police.

CHATS DURING RECESS

"We don't like to criticize, but we ofttimes believe that constructive criticism is a good thing" says the Gillespie, Ill., News. And then the editor suggests that the school board spend about fifteen minutes to cut the grass at the little brick school. This hint may be applicable to many other school grounds.

to many other school grounds.

—News item from South Shields, England:
Finger rings have been banned from classes by
the South Shields authorities, on the theory that
adornment of this kind tends to distraction during lessons. Neither boys nor girls will be
allowed to wear rings in school hours. A girl
gazed constantly at her ring instead of attend-

The All-Year School Wins

The all-year school is an innovation which is slowly fighting its way into recognition. Nowhere has the controversy been waged more fiercely than it has in Newark, N. J. Superintendent Corson of that city, who waged a strong fight against the innovation, found himself confronted by 28 school principals who with equal vigor championed the all-year school.

The controversy led to a recourse to experts. Dr. Wilson Farrand and Professor M. O'Shea were invited to conduct an investigation to determine the efficiency of the all-year school in comparison with the so-called traditional schools. They examined the evidence relating to the success or failure of the all-year school and recommended in view of all the evidence submitted that "the All-Year schools in Newark be continued and that they be given every facility to make their work even more efficient and effective than it has been thus far. We recommend that a careful study be made of their possibilities with a view to adapting the curriculum more closely to the needs of their pupils, and that every effort be made to reduce the administrative difficulties which at present handicap the work of these schools."

This report had not come to hand when the AMERICAN SCHOOL BOARD JOURNAL in its November issue presented Dr. Corson's views on the subject which appeared in the annual report of the Newark board of education. In the introduction to Mr. Corson's views it was stated that the controversy had resulted in a "draw," which

in the light of the final report by the experts proves to have been an incorrect statement.

The study was continued by Prof. W. Carson Ryan, Jr., of Swarthmore College. Every phase of the subject was laid bare and reduced to definite conclusions as follows:

"1. The data do not support the Superintendent's recommendation for the abandonment of the All-Year schools.

"2. Such evidence as the Superintendent presents, when properly analyzed and interpreted, creates a strong argument in favor of the work of the All-Year schools."

When the experts had completed their study and submitted their conclusions, Superintendent Corson expressed himself as follows: "The question was submitted to a tribunal and the decision is that the all-year schools shall continue. I accept the decision and will do everything in may power to maintain the schools on an efficient basis."

In November a committee of the Newark board of education, consisting of Henry Young, chairman, Dr. Edgar A. Ill, and Mrs. William H. Osborne met with the principals of the eight all-year schools to receive recommendations for their further improvement and extension of admitted usefulness. In opening the conference, Chairman Young stated that the all-year school question had been settled as far as Newark was concerned and that suggestions for further betterment were in order.

striking cases in which intelligence test ratings and teachers' judgments were widely at variance, and in which subsequent study of those cases proved conclusively that the tests had made the correct diagnosis."

The reader will recognize, if he analyzes each of these paragraphs, that three specific points are made concerning each case. First, a teacher's judgment was passed. Second, a psychological test was given. Third, a "subsequent study" revealed the fact that the psychological test "had made the correct diagnosis" and that the teachers' judgments were very inaccurate.

Now, the first two points brought out in each paragraph are quite clear and definite. I think there should be no question as to at least approximately what took place. The great mystery is involved in this "subsequent study." I fear that the possibilities which might develop here are rather far reaching, and we are given not the least hint as to what took place. Scientifically, however, there are just two methods of procedure which should have been permitted in this subsequent study, although neither of them would probably be accepted as conclusive proof.

The first method would consist of the judgments of those who were observing the daily work of the pupils. But this method is no longer permitted, since judgments of any kind have been outlawed by the use of the psychological test.

The second method would consist of the administration of achievement tests of whatever nature. But, if achievement tests will prove that a pupil is properly placed after a psychological test is administered, why will they not show that he is improperly placed before the psychological test is given? Can it be possible that some sort of mental transformation takes place in the subject with the administration of a psychological test, which will make conditions different under which judgments and the results of achievement tests will be rendered? This transformation is possible though not miraculous, as I shall show.

There are two reactions, however, which will inevitably take place during the period of this subsequent study, which will greatly assist to render the decision in favor of the intelligence test and the tester, and which is the only pure psychology used in the entire performance. If the teachers, parents, and pupils can be convinced by the intelligence testing "expert" that the results of the test are "conclusive" and should be taken seriously, the psychological effect will be decisive. If Neal is declared a superior pupil and Marie a moron by the test, they will both abide by the result until Marie's mother appears on the scene and demands a recount. Unfortunately, however, the probabilities are that no outside interference will occur and Marie will thereafter consider herself a moron and will be treated accordingly by her teachers. On the other hand, Neal will not only know that he is a superior pupil and capable of greater performance, but he will demand superior attention and the teacher will be obligated to render it. Therefore, how could the result of this "subsequent study" be otherwise than favorable to the test?

Another point which is suggested by these references above. We often hear it said that intelligence tests are a scientific measure of ability for the reason that the results are free from opinions. It is claimed that the tests are objective measures of ability. I have already tried to show that it still remains to be proved that the intelligence test is an adequate and reliable measure of intelligence and all claims made to the contrary are purely speculative and the opinions of a certain group. Furthermore, the cases of Neal, Ada, James, and Marie cited above are typical of the treatment of all

A Plea for a Science of Education

E. F. Orr, Fort Wayne, Ind.

(Concluding Installment)

In a previous section of this paper, I endeavored to give my reasons why we are not justified in regarding present intelligence tests as an adequate measure of intelligence. It is my purpose in this section to discuss a few of the false assumptions which have been made in an endeavor to establish the validity and reliability of the tests and to cite types of propaganda which have attended the movement.

The validity and reliability of an intelligence test at present is established by showing that it has a high correlation with another intelligence test. Of course, we have made the false assumption that the correlation is due to the fact that the two tests measure the same limited number of innate abilities as I have already shown. For the sake of proving another case in point, however, I am willing to retract for a moment and agree that two tests have a high correlation for the reason that they measure the same innate abilities. Therefore, since one of these tests is an adequate measure of intelligence the other must be also. This comparison of tests would go on indefinitely, if we had not either assumed or proved somewhere along in the intelligence testing movement that one of these many tests measures intelligence and proceeded thenceforth to regard it as the standard. The Stanford Revision of the Binet-Simon Scale is generally regarded as this standard.

In order that we may be justified in using the Binet-Simon Scale as a standard, we should first know that this scale actually measures intelligence. This matter should be proved to us beyond reasonable doubt and the method of proof should involve scientific principles. Let us now proceed to investigate the method of proof in this instance. The reader may judge as to science involved in the method.

Some have urged that this scale, or others which have been used as a standard, is a reliable and adequate measure of intelligence for the reason that it correlates highly with achievement tests, teachers' marks, and teachers' judgments. Later on, however, when it becomes

necessary to justify the use of intelligence tests in the educational scheme, we actually prove by the use of the intelligence test that these former measures of abilities are antiquated and unreliable; thus justifying the use of the intelligence test for measuring the abilities to learn and for purposes of classification of pupils, in other words, teachers' marks, teachers' judgments, and achievement tests of whatever nature are either reliable or unreliable as it suits our purpose.

What reason, based on scientific proof, do we have then for believing that the Binet-Simon Scales measures intelligence? We simply have none except the opinions of the experts. This matter, like practically all matters in education, is determined by authority.

As a specific example of this authority, let me cite the reader to an article which occurred in the August number of this Journal for 1925, page 90. This article was written as a reply to a brief outline of my views concerning intelligence testing which I gave in the previous May number. The references to Neal, Ada, James, and Marie were given, according to the author's own words, "because they illustrate so aptly the falsity of the writer's (my previous) assertions." They are what the author calls "rather





This child's voice is heard in every corner of the biggest room

THE scene, an auditorium so big as to tax the voice of even an experienced speaker—yet, thanks to the Western Electric Public Address System, this child's small treble is distinctly heard in every corner. Enlarging the practical use of an assembly hall like that is no small service, yet it is but one use of the Public Address System. For with this system concerts, speeches, fire-drill or calisthenics commands can be sent into any or every classroom. The possibilities thus opened up are fascinating. Graybar Electric, distributor of the Public Address System, will send a specialist, at your request, to demonstrate the benefits of the system in your school.

Offices in 59 Principal Cities

Executive Offices: 100 East 42nd St., New York





THE GRAYBAR TAG UNDER WHICH 60,000 QUALITY ELECTRICAL SUPPLIES ARE SHIPPED



Central High School, Columbus, Ohio Wm. B. Ittner, Architect

INDIANA LIMESTONE—Economical and Beautiful for Schools

SCHOOL buildings of Indiana Limestone that are true civic assets are found in all parts of the country today. The comparatively low cost of the stone and the economical ways in which it may be used are contributing to its popularity among architects and school board members.

It is adaptable for both large and small structures, used either as trim or for the entire facing of walls, and assures a building that will be permanently beautiful—always a worthy civic investment.

We shall be glad to send you free upon request our handsomely illustrated booklet, "Indiana Limestone for School and College Buildings." Address Architects' Service Bureau, Box 780, Bedford, Indiana.

General Offices: Bedford, Indiana Executive Offices: Tribune Tower, Chicago



A PLEA FOR SCIENCE OF EDUCATION

(Continued from Page 66)

such cases in the literature of intelligence testing; and it is evident that the promotion or demotion of these pupils, aside from the psychological effect cited above, was not determined by the actual results of the test but by the interpretations placed on these results by the examiners. Therefore, the whole process resolves itself into a matter of opinions and the discussion necessarily drifts into a controversy over whose opinions are of most worth.

We must pass on to the treatment of another statement which invariably occurs in all discussions which are made by advocates of the intelligence test. The statement is modified in each instance to suit the author's own style but in substance is always the same; and it is given as one of the reasons why we should have faith in the current methods for measuring intelligence. One author's version of this statement is as follows: "Although we are ignorant of the true nature of intelligence, we are also ignorant of the true nature of light, heat, time, and electricity, but in some way we measure each of these things."

The inference here is plain. Since we "in some way" measure light, heat, time, and electricity, we should be able to measure intelligence. This inference must necessarily be based on the false or unwarranted assumption that light, heat, time, and electricity have characteristics similar to those of intelligence and are therefore, analogous to it. If I have been correctly informed, light, heat, and electricity are physical entities. They reside entirely outside the category of, and have no common or similar characteristics whatever to things mental or spiritual. Although we may be ignorant of the

true nature of the former as well as that of the latter, we have an abundance of evidence that their natures are entirely different. Furthermore, our ignorance of the true nature of the former is infinitely less than that of the true nature of the latter; and one of the main reasons for this is that the former yields itself readily to measurement while the latter does not. In other words, our ignorance of the true nature of light, heat, and electricity has been considerably reduced due to the fact that we have been able to measure them.

Now, in so far as time is a metaphysical entity, it may be considered in a philosophical discussion with other metaphysical entities such as length, space, and motion or even with intelligence; but we are not comparing these things in the abstract. We are only discussing the measurement of these things. To be sure, we are ignorant of the true nature of time. know absolutely nothing about its nature; but we do know absolutely and definitely about its measurement. Nature has provided a very simple method for the measurement of time. She gives us the day and the year which are absolute and invariable units, and which are convenient approximations of each other. All other units for the measurement of time are multiples of these two units. If we had only one of these units we could proceed with the measurement of time as well as we do now. The fundamental principle for the measurement of all things which yield themselves to measurement, is the fact that it is possible to find a starting place, a constant primary unit. If this constant primary unit is not given us as in the case of time, it is possible to select an arbitrary one as in the case of length.

What do we know about this primary unit, this starting place for the measurement of intelligence (Has any unit been found; and if it has been found, is it constant? I had the pleasure of hearing a student of education remark about a year ago, that some research student had prepared a series of experiments covering a period of two years and it was believed that he might prove that the I. Q. is not a constant. What one of us with any claim to intelligence ever believed that it is a constant? William James once made the remark that, what a man will think tomorrow will depend much on what he is thinking today. Of course, according to the "modern" theory, the quality of one's thinking gives no reflection on his intelligence and hence does not affect the constancy of his I. Q.

As I said in the beginning, intelligence is not being measured by any means nor have we ever made a beginning. The only units we have or possibly will have for some time for the measurement of intelligence are standards; and standards for measuring intelligence are just as variable and questionable as those for measuring religion or morals.

To supplement what I have written here I shall quote from a recent book of Geo. A. Dorsey, which has a direct bearing on what I have maintained throughout this discourse. "But the 'racial purity' and the 'racial inferiority' behind such books as McDougall's Is America Safe for Democracy, Chamberlain's Foundations of Nineteenth Century Civilization, Grant's The Passing of the Great Race, Wiggam's The New Decalogue of Science, Gould's America a Family Matter, and East's Mankind at the Crossroads, are bunk, pure and simple. .. To bolster up racial prejudice on a Nordic or Puritan complex by false and misleading inferences drawn from 'intelligence tests' or from pseudo-biology and ethnology, is to throw away science and fall back on the mentality of primi-

(Concluded from Page 68)

¹Monroe, DeVoss, and Kelly: Educational Tests and Measurements, Boston: Houghton Mifflin Company. 1924, p. 334.

A new book on Architectural Fenestra for schools and office buildings...

Here is a USEFUL book about steel windows for the modern school building. It contains many illustrations of Fenestraequipped schools and office buildings, together with practical steel window details and complete specifications.

It is a book that should be in the hands of everyone interested in school construction. Send for a copy. Use the coupon.

To assist in the proper designing and detailing of steel windows for architectural structures, we maintain an Architectural Service Department, the services of which are available to any architect without charge or obligation.

This department is composed of trained architects with long experience in steel windows and their correct use in all types of monumental buildings. At your request they will give you sketches, perspectives, elevations, details, cross sections, or any information or suggestions pertinent to your window installation.

Many of the leading architects have utilized this service with very satisfactory results. A word to your local Fenestra representative will place this department at your disposal either through direct personal service in your own drafting room, or through careful and intelligent cooperation from headquarters in Detroit.

DETROIT STEEL PRODUCTS COMPANY
R-2266 East Grand Boulevard, Detroit, Michigan
Canadian Metal Window and Steel Products Company,
Ltd., Toronto, Ont., Canada.
Factories: Detroit, Mich., Oakland, Calif., and Toronto,
Ont., Canada.



ARCHITECTURAL FENESTRA 19

DETROIT STEEL PRODUCTS COMPANY R-2266 East Grand Boulevard, DETROIT, MICHIGAN.

I would be pleased to have a copy of your book on Fenestra Architectural Windows.

Name.....

Address.....

City and State.....

Tenestra

schools and institutions homes and apartments commercial buildings all industrial structures



O

in Central High School, Saginaw, Michigan—one of hundreds of classrooms in which DENZAR has solved the lighting problem.

Plan now to install DENZARS in your classrooms during the Christmas recess

As the first step towards improving the lighting of your schools write today for a copy of the DENZAR CATALOG, which gives you the facts you should know about this ideal light for classroom illumination.

BEARDSLEE CHANDELIER MFG. CO., 219 South Jefferson St., Chicago

(Concluded on Page 70)

tive savagery."1 Please observe that such books as those quoted above would not be possible without the false and misleading inferences drawn from "intelligence tests."

'This is the age of honest skepticism and the dawn of enlightenment; even as it is of credulity-spawn of ignorance and blind faith. But no age has been so capitalized and exploited by fake science as are these states today. Fake healers, dozens of kinds, hundreds of practitioners; thousands of suckers."2 What a wide and deep gap between these two classes—the skeptical and credulous! And what a tremendous majority in the latter class! What a reflection on the educational feast that is being spread before us! What a wonderful opportunity for scientific and practical educators with the masses craving the literature of Zane Grey, the economics and international consciousness of Arthur Brisbane, the morals of Elinor Glyn, and the science of Albert Wiggam.

BUSINESS DEPARTMENT OF THE DAYTON BOARD OF EDUCATION REORGANIZED

(Concluded from Page 46)

quired for the swimming pools, showers, and toilet rooms.

The foreman of electrical work has two electricians, who are kept constantly employed in maintaining the 700 electric motors, over 10,000 lights, and other miscellaneous equipment such as electric irons, hair-driers, dishwashers, motion picture machines, elevators, fire alarm and signal systems, automatic controls for ventilating systems, and small tools used in the manual training centers.

The Janitorial Service

The janitorial service is in charge of a superintendent of janitors, who has a force of 100 engineers, custodians, janitors, and firemen. The department is responsible for the heating and cleaning of the various buildings. Over 75,000 panes of glass are washed twice a year, while more than two trainloads of coal are used to heat the buildings.

The Building Construction Department
The building construction department has constant oversight of the work on new buildings under construction, or about to be erected. The department has a chief architect and two inspectors who are regularly employed to check up the details of construction in the buildings to be erected. During the past summer fireproof halls and stairways were constructed in four old buildings, and additions to two others were built under the supervision of these men. In addition, the department had oversight of four new buildings constructed under the supervision of local architects.

The Purchasing Department
The purchasing department has a chief clerk and five assistants who purchase, receive, and distribute all textbooks, supplies, and miscellaneous equipment required by the operation of the school system. The department also purchases and checks the materials and supplies required by the building division for janitorial service and for the cafeterias.

The Cafeteria

The cafeteria has a director, who is assisted by 21 adults, 70 part-time student assistants, and is equipped to serve approximately 3,000 lunches each day at the several high schools. The service supplies, warm, balanced, and nourishing lunches at a very low cost.

The Transportation Department

The transportation department operates three automobile buses for transporting crippled and deficient children. It also furnishes transportation for the building and purchasing departments. Four trucks and five service cars are used for the latter service.

The business department is in charge of Mr. John W. Graham, who is directly responsible to the superintendent of schools. Mr. W. W. Kline, who acts as secretary to the business manager, co-ordinates the work of the various divisions.

Speaking on the purpose of the business department in the general scheme of the school system, Mr. Graham said: "The business organization is one of the incidental tools necessary for the smooth functioning of the teaching forces. The perfect business organization provides all the materials and equipment desired by the teachers, at the time and the place needed, without ostentation and without cost to the taxpayer. Any practical organization must be a compromise between these extreme requirements.

We expect, with standardization of the type of equipment and the elimination of waste, to gradually equip all the schools with facilities necessary for efficient and adequate instruction.

"We expect to anticipate the growth of the city and to plan for that growth to prevent, as far as possible, an overcrowded condition and the use of temporary structures.

"We also hope to maintain and gradually improve the condition of the old buildings, and to construct new buildings in such a manner as to facilitate their future maintenance and make them the most useful for the purpose intended."

Very Fine!

Your School Board Journal is very fine. I appreciate your effort. Everett Howton, Superintendent of Schools, Princeton, Ky.

Cannot Be Without It

Continue the School Board Journal as we are unable to keep house without it. Browning, Superintendent of Schools, Rhinelander, Wis.



West Junior High School, Ashtabula, Ohio, equipped throughout with PeerVent Units. Architects, Franz C. Warner and W. R. McCornack, Cleveland, O. Heating and ventilating contractors, R. T. Withers Sons Co., New Castle, Pa.

UNIT CONTROL of heat and ventilation satisfies everyone

YOU would not think of going back to the old systems of sanitation, fire prevention, etc., now that the present-day controllable systems are to be obtained. Isn't it just as illogical to keep on using the older methods of ventilation, such as opening and closing windows or the central fan system?

As one architect wrote us recently, "the occupants of various rooms have as many ideas of heat and ventilation as there are rooms." The only way to please all is to furnish PeerVent UNIT CONTROL. Then each room gets exactly the amount of warm fresh air that is needed, regardless of weather, direction of wind, or other variable factors.

The supply of fresh air is constant (while the room is occupied), but the temperature can be adjusted accurately—either by hand or automatically—to meet any requirements.

Perfectly flexible control is only one of many desirable features of PEERVENT UNIT heating and ventilating.

Send for the PeerVent catalogue. If you wish we will gladly send our local sales representative.

PEERLESS UNIT VENTILATION CO. INCORPORATED

Pioneers in Unit Ventilation

Skillman Avenue and Hulst Street Long Island City, N. Y.

PEERVENT

CHICAGO
MONADOCK Bldg.
BOSTON
100 BOJISTON St.
SPRINGFIELD, MASS.
196 Worthington St.
PITTSBURGH
301 HOUSE Bldg.
CLEVILAND.

DETROIT
723 Lafayette Bldg.
DES MOINES
520 Securities Building
PORTLAND, ORE.
927 BOARD OF Trade Bldg.
MINNEAPOLIS
240 7th Avenue South
TORONTO, CANADA
Darling Bros., Ltd.
77 York St.

Heating and Ventilating Units



SEISCHOOL FINANCE

—In order to continue the schools of Atlanta, Georgia, a loan of \$500,000 is imperative. The banks have refused the loan unless endorsements are provided by the business men.

—The legislature of Texas has augmented the state school fund by \$3,500,000 and increased the per capita apportionment from \$11.50 to \$14.00, and no more.

—The Wilkes-Barre, Pa., board of school directors has for ten years past fostered the payas-you-go plan in school finance. The pupil enrollment is 15,000, with plenty of housing for all children. During the ten years the board reduced the bonded indebtedness from \$1,000,000 to \$450,000. In the meantime, \$1,500,000 was spent for new school construction and now has \$500,000 cash in hand for new buildings.

—The business manager of the Boston, Mass., school committee, Arthur M. Sullivan, presents a report for the year 1925 covering 145 pages.

Mr. Sullivan has introduced some innovations all of which are designed to provide a more graphic future, past, and present of the financial housekeeping side of the Boston school system.

He demonstrates that while the cost of main-

He demonstrates that while the cost of mainthe demonstrates that while the cost of maintenance of the school system, including alterations and repairs to school buildings, was \$6,046,126 in 1916-17 it has grown from year to year until in 1925 the total cost was \$12,769,323. The appropriations for the ensuing year are \$19,697,172. Of this amount \$4,000,000 will go for new buildings and \$1,620,660 for alterations and repairs.

are \$19,697,172. Of this amount \$4,000,000 will go for new buildings and \$1,620,660 for alterations and repairs.

—Alexandria, Virginia, leads the state in the per cent of its total revenue spent for the support of public education. It spends 33.1 per cent of its income for the youth of the city.

—Bristol, Va. The city ranks second in the state among Virginia cities in the per cent of revenue spent on the upkeep and running of its schools. Thirty per cent of the total city income is used for educational purposes. The city has four schools with approximately 2,000 students enrolled. The appropriation is \$75,690

for schools, with \$16,000 contributed from state

for schools, with \$16,000 contributed from state funds.

—Charlottesville, Va.—This city stands third in the amount of money spent for schools of any city in the state, for it spends 25.6 per cent of its total revenue for public education.

—The Indianapolis, Ind., board of education was offered a school site at \$30,000. Subsequently the price was reduced to \$28,000. Then the board secured the services of three disinterested real estate dealers who appraised the site at \$19,000. In commenting on the subject, the Indianapolis News Says: "Perhaps there is no written law forcing the board to try to buy for \$19,000 ground that had been offered for \$28,000, but there is a moral law that requires that economy shall be practiced wherever possible."

—Seattle, Wash. Additional facilities for 430 pupils in excess of the original estimates will be provided by the building program inaugurated when the voters authorized a bond issue of \$2,250,000. It was planned that the new buildings and additions made possible would house 5,840 pupils but careful planning increased the figure to 6,270.

5,840 pupils but careful planning increased the figure to 6,270.

Of the new buildings, all but three have been occupied. Two elementary schools are the latest of the new program to be completed.

—Dr. O. T. Corson of Oxford, O., who was a speaker at the last meeting of the Southern Illinois Teachers' Association, has declared that the elementary schools are neglected and that they do not receive the financial support that high schools receive. Dr. Corson held that since they are the most important schools, they should they are the most important schools, they should receive more money in order that better trained teachers may be employed in them. Mr. W. S. Booth, of the department of public instruction, argued for equal salaries for grade and high school teachers having equal training and ex-

—The New York-World Tribune reports that the public schools of Atlanta, Georgia, may be forced to close for the remainder of 1926, unless forced to close for the remainder of 1926, unless a plan is successful in raising \$500,000 to cover the cost of operation. The present revenue of the schools is exhausted and the salaries of the teachers for September had not been paid. The largest banks in the city have refused to lend money to the city or the schools. The banks also refused to lend money against certificates of salaries on the basis that it was illegal. The board will appoint a special committee of citizens to supervise the preparation of the budget for the next year and will make

of the budget for the next year and will make another plea to the banks.

—The New York board of education is now spending about \$80,000 a year for school cafeterias. An investigation is being made to ascerterias. An investigation is being made to asset tain whether these cafeterias cannot be made

self-sustaining.

—The New York City school budget calls for \$100,000,000. Howard W. Nudd of the Public Education Association claims that "To the ordireader, the school budget is an ominous volume whose every page appalls, with mystifying masses of figures arrayed in serried rows. There is nothing to enlighten him but a staggering series of nearly 250 statistical tables and nothing but a very general and unilluminating index to guide him through the vast wilderness of digits and decimal points. There is need, in index to guide him through the vast wilderness of digits and decimal points. There is need, in short, for a descriptive and interpretive budget report, designed for the average citizen, as a supplement to the present technical volume prepared so ably by the auditor for the use of the experts."

experts."
—The annual report of the Secretary, Alfred Lister, of Tacoma, Pierce County, Washington, is a document which is wholly confined to statistical information. Mr. Lister shows that the district expended \$1,608,595 for the year ending June 30, 1926. He also reports that "During the year the District issued to the State of Machineton heads are entired to \$810,000,000, the ing June 30, 1926. He also reports that "During the year the District issued to the State of Washington bonds amounting to \$819,000.00, the balance of the \$2,400,000.00 voted for new schools in 1923; December 1, 1925, the first payment of \$56,000.00 was made on these bonds. \$165,000.00 bonds issued September 1, 1904, were paid on September 1, 1925. Bonds now outstanding against the District amount to \$2,744,000.00, all bearing 4¼% interest. \$400,000.00 annually beginning July 1, 1927. Other bonds due the State are payable in installments, December 1st of each year 1926 to 1947."

—The Indianapolis, Ind., board of education has submitted its budget of \$11,464,000 to the state board of tax commissioners. It also recommends a school levy of \$1.09.

—The school property of Madison, Wis., is insured to the amount of \$3,062,000. The fixing of the amount and the placement of the insur
(Continued on Page 75)

(Continued on Page 75)

COLASS SENCEOSURESE

Some Things Not To Do In Connection With The Design of Your School Greenhouse

You can well imagine that it's a rather delicate thing to publish a lot of don'ts.

One is sure to step on some toes.

Still as the oldest builder of such houses, it does seem as if we should have accumulated experience that can but have value.

Not content with that, however, we wrote to a hundred schools for whom we have either erected houses or furnished materials and equipment.

They sent us a wonderful lot of answers. From them we have selected such don'ts as are concurrent in the greatest number.

First: All concrete bottoms or floors are bad for plant life. If the location makes them necessary, make portion under benches sunken, so it can be filled with soil or cinders to retain the moisture. This is a particularly important point.

Second: Regardless of the lines of architectural design without, do not let them govern height of benches within. Experience proves that

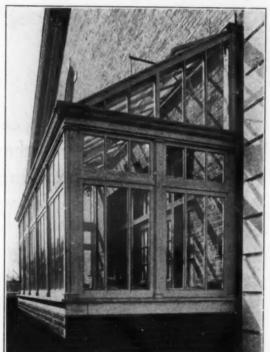
those 2 feet 6 inches high, best meet the needs of plants and convenience of students.

Third: Locate the greenhouse on the southern side if you would have the greatest benefit from the sun in the short days when most needed.

Fourth: Build them with iron frames and nothing but cypress wood, and only the highest grade swamp grown greenhouse quality. Nothing equals this structural combination.

Fifth: Keep as closely to standard widths and sizes as possible. This observance means not only the height of practicalness from a class standpoint, but keeps cost down. The city of Detroit standardized on leantos 18' wide and 13' long, of which we have furnished materials for 14. Minneapolis uses our standard even span one, 18 wide and 50 long divided in two compartments.

Allow us to remind you that our School Service Department is at your disposal without obligation of any



Leanto Botanizing Greenhouse of the New Britain State Normal School, New Britain, Conn.

FOR FOUR GENERATIONS BUILDERS OF GREENHOUSES

lord & Burnham 6.

Builders of Greenhouses and Conservatories

EASTERN FACTORY IRVINGTON, N. Y. IRVINGTON NEW YORK CLEVELAND 1304 ULMER BLDG.

NEW YORK 30 E. 42ND ST. DENV

DENVER
1247 SO. EMERSON ST.
BUFFALO
CKSON BLDG. 12

WESTERN FACTORY DES PLAINES, ILL. PHILADELPHIA LAND TITLE BLDG.

MONTREAL 124 STANLEY ST.

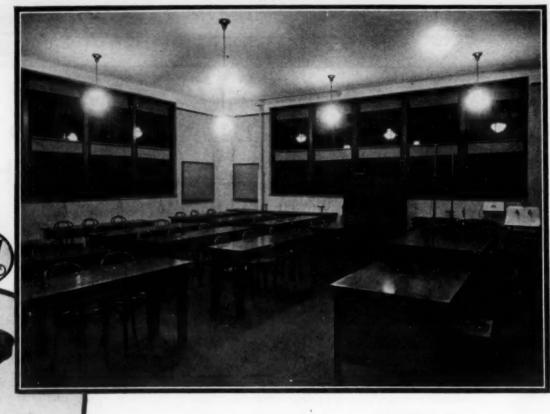
CHICAGO
G. CONT. BK. BLDG.
KANSAS CITY
COMMERCE BLDG.

MMERCE BLDG.
ST. CATHARINES
ONTARIO

ST. CATHARINES, ONT.

BOSTON
LITTLE BLDG.
ST. LOUIS
704 E. CARRIE AVE.
TORONTO
HARBOR COM. BLDG

E GLORD & BURNHAM-GO.



CLASSROOM MORALE

N even the darkest days of winter, the uniform, glareless light of Sol-Lux luminaires makes the schoolroom a pleasant, healthful place to work.

Every educator knows how the removal of eyestrain improves the quality of student work and raises classroom morale.

That's why more and more schools are installing Sol-Lux.

In the Augusta Lewis Troup school, New Haven, Connecticut, Sol-Lux luminaires produce the result shown above, and are again proving their superiority for classroom illumination.

Westinghouse Electric & Manufacturing Company Merchandising Department - South Bend, Indiana



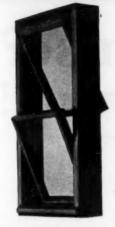
Westinghouse

CITIES WHICH HAVE OUR EQUIPMENT

SCHOOLS.

Canton, Ohio.
Girard, Ohio.
Kenmore, Ohio.
Niles, Ohio.
Zanesville, Ohio.
Bethlehem, Pa.
Woodlawn, Pa.
York, Pa.
Allentown, Pa.
Reaver Falls, Pa.

Allentown, Pa.
Beaver Falls, Pa.
Butler, Pa.
Braddock, Pa.
Duquesne, Pa.
New Cart



Outstanding features of "Williams" Reversible Window Equipment

Ideal Overhead Ventilation Reversibility for Inside Cleaning

Greater Light Area More Weathertight Con-struction

Better Shading Facilities Simplified Frame Construc-

Weightless Windows

Write for list of installations near you

FRANCIS D. RAUB SCHOOL, ALLENTOWN, PA

Jacoby & Everett, Archts., Allentown, Pa.

IDEAL WINDOW VENTILATING AND CLEANING FACILITIES

Williams Reversible Window Fixtures provide these important and essential

By merely tilting either or both sash an ideal overhead ventilation is obtained and children sitting near the windows are not subjected to drafts. The sash are placed in a plank frame and being non-sliding a more weather tight win-

The complete reversibility of the sash permits window cleaning from inside the room with ease and absolute safety.

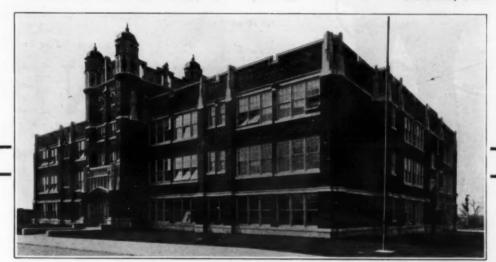
Williams Reversible Window Equipment is installed only by factory trained mechanics assuring efficent workmanship and proper operation of equipment.

LET US SEND YOU FURTHER PARTICULARS.

THE WILLIAMS PIVOT SASH CO.

East 37th St. and Perkins Ave.,

Cleveland, Ohio.





With "Williams" Reversible Window Fixtures cleaning is done entirely from the inside.

(Continued from Page 72)

ance is in hands of a committee consisting of Paul E. Stark, Theodore Herfurth, and A. W. Schulkamp.

The income of the town of Windsor Locks, in., for the fiscal year of 1926 is about 0,000. Of this amount \$90,000 has been spent Conn., fo \$100,000.

The income of the town of Windsor Locks, Conn., for the fiscal year of 1926 is about \$100,000. Of this amount \$90,000 has been spent on the schools. At a town meeting it developed that some citizens believed that greater economy should be practiced and that the subject of school cost should receive careful study.

The Illinois State Teachers' Association has made a study of the cost of conducting consolidated rural schools. The United States bureau of education in commenting on the study, says: "The daily current expenditure per grade pupil was 45.9 cents, including transportation expenditure, in the 36 consolidated schools in Illinois that spent the most for pupil transportation in 1924-25. In 330 of the 745 one-teacher schools of six counties in the same part of the State, the daily current expenditure per pupil was 46 cents or more. Other studies and statistics have shown that consolidated schools may be operated at approximately the same per capita cost that one-teacher schools require. A great saving results when each teacher has a full quota of pupils, since the instruction item is the largest of the school budget."

—Portsmouth, Va. The school board has adopted a budget of \$415,110.

—Knoxville, Pa. The school levy has been reduced from eighteen to fourteen mills for the year 1927. The fourteen-mill tax will raise \$101,855. Added to this will be \$4,000 from the per capita tax, \$4,000 from the state aid, and \$7,000 from the rental of school property, or a total of \$116,855.

—Cincinnati, O. The school board has asked for an intensive campaign for an extra tax levy for increased salaries. In comparison with other

—Cincinnati, O. The school board has asked for an intensive campaign for an extra tax levy for increased salaries. In comparison with other cities, it is found that Cincinnati teachers receive small salaries. The campaign will be conducted by the Citizens' School Committee and will be in charge of Dr. J. M. Withrow.

—The schools of Bridgeport, Conn., are under-insured to the extent of \$3,871,716, according to Business Manager John B. Wynkoop. The valuation of the school plant is placed at \$10,137,895 and the insurance value is \$8,344,320. On this basis, it is estimated that the school plant is grossly under-insured. As the current

policies on school property expire in March, 1928, it is recommended that the board give the

policies on school property expire in March, 1928, it is recommended that the board give the matter its attention at that time.

The per capita cost of operating the city schools of Bridgeport for the last year was \$68.80, or an increase of \$3.62 over the previous year. The cost per day for all day schools was \$10,261, and for evening schools, \$364 per night.

—The Poultney Township, Ohio, board of education has expended nearly \$10,000 for the education of children in the township who attend city schools. Of this sum, more than \$8,000 will be paid to the Bellaire schools, more than \$4,000 to Shadyside, and more than \$700 to St. Clairsville. More than 125 Poultney children are enrolled in the Bellaire schools.

Under the law, the township must pay the tuition of the children to other schools, based upon the per capita cost of educating high school children. The per capita cost a year in Bellaire is estimated at about \$65 a term.

—Syracuse, N. Y. The appointment of a business manager to direct the business affairs of the school system has been recommended by Mrs. Linda H. Larned, a member of the school board. The business manager would have the supervision of everything pertaining to the schools outside of the jurisdiction of the superintendent and his assistants in the administrative division.

—Poughkeepsie, N. Y. The school board has tive division.

—Poughkeepsie, N. Y. The school board has adopted a budget of \$387,098 for the year 1926-

Racine, Wis. The school board has asked the city council for an additional \$100,000 for the two new high schools which it is proposed to erect. The sum of \$90,000 was provided in a bond issue some months ago.

—Manitowoc, Wis. The school budget for the

year has been fixed at \$311,000.

—Portland, Ore. The school board has adopted a budget of \$5,450,000. The budget will include \$3,722,557 for teachers' salaries.

—Stevens Point, Wis. The school board has adopted a budget of \$135,550 for the school year 1926-1927. This figure does not include receipts of \$24,000, which added to the estimated total cost of operation, amounts to \$159,550.

—Fond du Lac, Wis. The school board has adopted a budget of \$425,275, which is an increase of approximately \$10,000.

The schools will be obliged to -Penfield, O. close unless funds are provided to assist the school board during the emergency. A threemili levy voted down last year will again

mili levy voted down last year will again be voted upon this year.

—Galveston, Tex. The president of the school board has been authorized to execute notes not to exceed \$45,000 with which to pay teachers' salaries for October, November, and December.

—Knoxville, Tenn. The central parent-teachers' association has asked the city council to rescind its decision to reduce the school budget from \$923,000 to \$863,000. It was pointed out that the reduction will seriously cripple the school system. school system.

-Atlanta, Ga. The board of education has delayed action on plans for the expenditure of the second \$1,000,000 of bond funds to become available from the recent bond issue.

The schedule was prepared by Supt. W. A. Sutton and Asst. Supt. R. R. Ritchie and contemplated about \$1,080,000, including 25 separate projects. Seven schools are among the contemplated buildings which represent an outlay of \$416,000.

—The high school of Glenn County, California, was closed when the teachers went on a strike on October 26th, because they had not received the salary for the previous month. The county treasurer claims that no more funds are available. The teachers will take legal steps to collect.

—The financial statement of the Toronto, Canada, board of education shows that the total operating charges for the past year were \$8,678,109. The balance in excess of receipts over expenditures was \$240,340. The assets consisting of buildings and equipment are computed at \$24,275,714. The debenture obligations amount to \$11,430,552. The unit cost per pupil in the several schools and for the various expenditures is demonstrated to the last detail.

penditures is demonstrated to the last detail.

—The voters of Salem Township, Ohio, have been asked to approve a three-mill levy in order to provide the school board with funds to keep the schools running for the full term. Unless the voters approve the levy, it will be necessary to close the schools and transportation routes. Last year the vote failed to pass by three votes and the board under special act, issued bonds

FINNELL Electric Floor Machine

University of Nebraska, Lincoln, Nebr. loard of Education Baltimore, Md. Iniversity of North Ca University of Michigan, Ann Arbor, Mich. Beard of Education, Lincoln, Nebr. oard of Education Middletown, Ohio Board of Education, Elizabeth, N. J. pard of Education, Pawtucket, R. I. Board of Education, Mt. Clemens, Mich University of Kentucky. Lexington, Ky. Independent School District, Buhl, Minn. American School for Deaf, Hartford, Conn. foler System of Colleges, St. Louis and Chicago Board of Education, Fort Worth, Tex. nesolidated Schools New Britain, Conn University of California Berkeley, Calif. Bethlehem School District, Bethlehem, Pa.



to continue the schools until the end of the school month.

school month.

—Green Bay, Wis. The board of education has estimated that it will require \$523,751 for school purposes during the present year, of which \$375,000 must be raised by special tax.

—Neenah, Wis. The board of education estimates that it will require a school budget of \$400,000 for the school year. The income of the board outside of local taxes is estimated at \$33.058. leaving a total to be raised by taxat \$33,058, leaving a total to be raised by taxation or bonds of \$366,996. The estimates include a total of \$285,200 for capital outlay, or new buildings.

—Youngstown, O. The 3.6 mill levy for the maintenance of the city schools was carried by the voters with a large majority. The levy covers a five-year period and will become effective in 1928.

—Birmingham, Ala. The citizens have been asked to revote the three-mill tax now being collected and used exclusively for the public schools. The tax was voted in 1923 and will expire in 1927, so that it must be revoted in order to make its operation continuous and the income uninterrupted.

—The board of trustees of Clyattville, Ga., school district were without funds for providing additional housing space. Without calling on the county board for aid, the trustees borrowed enough money for the needed building from a public spirited citizen, and let the contract for a concrete addition to house several of the grades. With the addition of a twelfth grade next year the school system will be up to the next year, the school system will be up to the

—Indianapolis, Ind. The recent nine-cent reduction made by the state tax board in the city school levy for 1927 has made it necessary for the school board to reduce the school program for the fiscal year.

Governor Ferguson of Texas, on October 25th, signed the emergency appropriation bill of \$3,500,000, to supplement the available school fund, which increases the per capita apportionment from \$11.50 to \$14. State Supt. S. M. N. Marrs has expressed satisfaction over the signing of the bill as he had supported the measure and urged the governor to approve and urged the governor to approve.

-When group of citizens Georgia, had underwritten a \$500,000 bank loan in order to keep the schools going the Atlanta

Be it said to the credit of the board that it has agreed with entire willingness and with the full concurrence of Superintendent Sutton to accept the friendly counsel of a banking committee in budgeting and expending next year's funds, from which the loan will be repaid. This assures the best of understanding among all concerned and establishes complete contact among those who lend the money, those who receive it and those who stand responsible for its payment. No securer plan could be devised, nor any that bids fair to work out more happily."

happily."

—Two schools are being erected in Somerset County, Maryland, under the "holding company" plan. The building at Crisfield will contain fourteen rooms and an auditorium and will cost \$46,700; the one at Princess Ann will contain nine rooms and auditorium and will cost \$37,500. Under the "holding" plan, the county commissioners levied \$10,000 for each building this year, and it is expected that \$10,000 will be levied each year for each community, until the total cost of the buildings is cared for. The buildings, furniture, and land will cost approximately \$100,000. buildings, furnitumately \$100,000.

The plan was adopted following the defeat of a bond issue for \$150,000, and the subsequent refusal of the county commissioners to levy \$35,000 for the Crisfield building.

Cost of Transportation in Montgomery County, Alabama

Alabama
Mr. T. L. Head, assistant superintendent of schools in Montgomery County, Alabama, has prepared a brief report, showing the cost of transportation in the county. The report shows that there are 35 county-owned buses which travel 260,058 miles and three privately-owned buses which travel 10,000 miles. The average miles traveled by one bus in one year is 7,107 miles, and the total miles traveled by all buses is 270,058. There were 24,664 gallons of gas consumed by county-owned buses, and the average gas mileage was 10.54.

age gas mileage was 10.54.

The report shows that the total amount spent for transportation was \$36,451 for a total of

1,654 children. The per capita cost of transportation was \$22.10 and the average cost per mile was thirteen and one-half cents. The average annual cost for buses was \$959.24 and the average monthly cost \$106.58.

The longest trip made by a bus was 24 miles and the shortest two miles. There were 21 adult bus drivers and seventeen school boy drivers, making a total of 38 drivers for the entire system.

TAXING SCHOOL PROPERTY IN OHIO

The state tax commissioner of Ohio has ruled that the several school systems must pay taxes on lands not used for school purposes.

It is said that the plan of the Cleveland board

of education in buying large tracts of land which will not be used for school purposes for at least

of education in buying large tracts of land which will not be used for school purposes for at least twenty years has caused the tax commission to adopt its policy.

"This ruling will cost the taxpayers of Cincinnati a large amount of money in future years," said W. J. Shroder, president of the board.

"We have always favored the plan of obtaining property for future school sites when the property could be bought at a reasonable figure, in many cases before the development of the locality has been completed. While this land is held in the name of the board of education it is not actually used for school purposes and will not be until buildings are erected. If we must pay taxes on this land the amount paid for this will be quite an item and in addition to this the board would not be able to purchase property for future development at a reasonable figure. Then when we need schools in various parts of the city the board would have to go in the open market for land, which would be considerably more expensive." more expensive.

A Correction

Mr. S. R. Bumann, whose article appeared in the November issue of the JOURNAL, is not the superintendent of schools at Port Arthur, Texas, as indicated erroneously at the head of his

Offices Moved

The offices of C. L. Hutchisson, architect, Mobile, Alabama, have been moved from 400 State Office Building, to 209-210 Staples-Powell



Stedman

RUBBER

FLOORING

REINFORCED

Good News for the Budget!

ONE shade on one school room window is insignificant. Multiply this window by several hundred. Multiply again by the number of times these windows must be reshaded. The result shows that window shade upkeep and replacements are a tremendous item on the budget,-a real source of worry to the school board.

Therefore, progressive school boards everywhere are turning to window shades of du Pont

Tontine. This modern shade material practically eliminates shade expense from the budget,—this year, next year and for years to come.

For Tontine shades can be washed,—restored to cleanliness with soap and water after the use and abuse of each school year. Tontine shades are sturdy, too; they do not fade, crack or pinhole. These unusual shades assure long wear and low upkeep cost. They form indeed "good news for the budget!"

Write for special swatches of colors chosen by up to-date municipalities for their schools. No charge.



E. I. DU PONT DE NEMOURS & CO., INC. Newburgh, N. Y.

Canadian Distributor CANADIAN FABRIKOID LIMITED Toronto, Ontario, Canada.

S BUILDING NEWS 2 OF THE SCHOOLS

SCHOOL BUILDING PROGRESS IN CHICAGO

The 1926 building program of the Chicago public school system provided 225 per cent more seats in elementary schools than any other single year in the twenty-year period from 1907 to 1926, according to a report recently submitted by Mr. John E. Byrnes, business manager of the school board. In addition, 35 per cent of the high schools and junior high schools in the last eighteen years have been erected, or are nearing

school board. In addition, 35 per cent of the high schools and junior high schools in the last eighteen years have been erected, or are nearing completion in the 1926-1927 building program. The figures of Mr. Byrnes also show that 52.2 per cent of all new elementary schools constructed during the eighteen years preceding were erected or neared completion in the 1925-1926 program. Forty-five per cent of all rooms in elementary buildings and additions constructed during the period were represented in the 1925-1926 building program, and 35 per cent of all seats in the entire number of elementary schools were provided in the building program. Another table compiled by Mr. Byrnes shows that 70 per cent of the new elementary buildings constructed during the sixteen preceding years are represented in the 1923-1926 period. Fifty-one per cent of all rooms in elementary school buildings constructed during the sixteen years are represented in the 1923-1926 period. Fifty and three-tenths per cent of all seats in elementary schools provided in the last sixteen years were supplied in the 1923-1926 period. It is shown that 13,896 more seats were provided in the 1923-1926 period in the 1923-1926 period in the 1923-1926 period than in any similar period in twenty years, and further that 424 per cent as many seats for elementary schools were provided in 1923-1926 as were provided in the preceding period of 1919-1922.

The appended table lists the number of schools erected, or nearing completion (elementary, junior and senior high) each two years during the twenty-year period. It is shown that 35 per cent of the high and junior high schools erected in eighteen years are erected, or nearing

completion in the 1925-1926 building program. Statement of all School Buildings Erected or Nearing Completion (Elementary, Junior and Senior High) each two years—for the 20-year period, 1907 to 1926

	Elementary		Se		
Years	New	Additions	New	Additions	Total
1907-08	 12	10	1	1	24
1909-10	 5	10	2	1	18
1911-12	 10	22	3	1	36
1913-14	 13	16	2	1	32
1915-16	 8	10	1	3	22
1917-18	 6	3	2	1	12
1919-20	 3	2	1	6	6
1921-22	 5	4	0	2	11
1923-24	 7	.5	0	1	13
1925-26	 36	13	4	4	57
Mate1	108	0.5	10	4.5	091

Total 105 95 16 15 231

The 1926 program shows a total of 193,488 elementary school seats and 4,031 rooms in elementary schools and additions. During 1925-1926, by far the largest period of building, 36 new elementary schools, thirteen additions, four senior and junior high schools, and four additions—a total of 57 new building projects—leads the nearest two-year period (1911-1912) by a wide margin. In that period 36 building projects were completed.

—St. Louis, Mo. A school building to be used for the education of deaf children is being erected at a cost of \$600,000.

—An addition made to the high school of Hillsdale, Ill., features a complete modern cafeteria, which allows the dining room to be used as a study hall for all but the hours of 11:00 a. m. to 1 p. m. This addition was designed by Childs & Smith, architects, of Chicago.

—Marion, O. Definite steps to relieve the ever-growing congestion in the schools were taken recently with the decision to begin a prebuilding survey. The board has employed Dr. P. R. Stevenson, of the Ohio University, to make

building survey. The board has employed Dr. P. R. Stevenson, of the Ohio University, to make a complete survey of the building conditions in preparation for a comprehensive building program. It is pointed out that a building survey is needed as a preliminary to the adoption of a

is needed as a preliminary to the adoption of a five-year building program.

—Whitewater, Wis. By a vote of 3 to 1 the citizens have expressed themselves for a new grade and high school building. This is the first school to be erected in Whitewater in 35 years. The cost of the new structure will be approximately \$170,000. Mr. H. R. Page is the superintendent of schools. superintendent of schools.

Bristol, Conn. Two new schools, one of eight rooms, and one of twelve rooms, have been completed at a cost of \$285,000. These buildings complete a building program covering several years, and provides accommodations for the next five years.

—Twenty-four schoolhouses in Alabama have been totally destroyed by fire since October 1, 1925. This represents a money loss of \$193,840 covered by \$121,205 worth of insurance.

-Mansfield, Ohio, has opened an \$800,000 high school building which the Mansfield News says is "an enduring monument to devotion of the people to the cause of education."

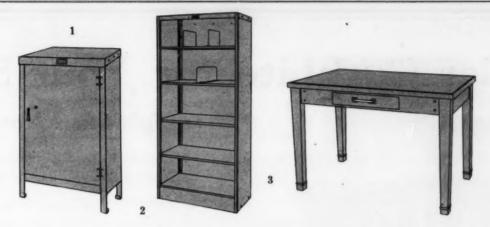
—Ashland, Kentucky, has a high school gymnasium under way which will seat 1,800 people. The dimensions are 121 by 131 feet. It will provide a playing floor with a clearance of 56 by 92 feet. The estimated cost is \$66,000.

-San Francisco, Calif. With the opening of the fall term, a total of seven new schools were completed and occupied. Of these, five were completed in September and two in October. The High School of Commerce contains 35

The High School of Commerce contains 35 classrooms, in addition to an auditorium, library, and gymnasiums, and cost complete a total of \$2,000,000. The Alamo grade school contains 36 classrooms, in addition to a library, an auditorium, and a clinic room, cost \$407,000, and accommodates 1,100 pupils. The LeConte school contains 34 classrooms, in addition to a library and an auditorium, cost \$318,000, and is planned to accommodate 1,100 students. The Sanchez school contains 34 classrooms, a nutrition room. school contains 34 classrooms, a nutrition room, an office, a clinic, a book storage room, and an auditorium, cost \$314,000, and accommodates 1,100 pupils. The Stone school contains 34 rooms in addition to a library, an auditorium, an office, and a clinic room, cost \$400,000, and has accommodations for 1,100 students.

Two buildings completed in October comprise

the Hawthorne and the Alvarado schools. The former contains 32 rooms, in addition to a library, a book storage room, two kindergarten rooms, and an auditorium, and cost \$283,000. The building is planned to accommodate 1,100 students. The latter building contains 34 classrooms, a library, an auditorium and other rooms, cost \$322,000, and accommodates 1,100 pupils.



Storage Facilities of QUALITY

Then consider how high their quality must be. Lymetco Steel Cabinets and Tables are made by the manufacturers of Lyon Steel Lockers that stand in hundreds of American schools.

The Lymetco Line is steel, pleasing in proportion, rigid in construction, beautiful in finish. You may select any one of the six fine lacquer finishes — oak, mahogany, walnut, white, ivory gray or the standard Lymetco Green.

Each Lymetco Product serves many secondary as well as primary purposes. Desk-hi (1) supplements a teacher's desk with space for records, books, examination questions — under lock and key.

For things not under lock there's the No-Dor (2) and the







table (3) might be termed indestructible.

Counter-hi (4) provides safe storage for schoolroom valuables. Tu-dor (5) will hold a big supply of schoolroom necessities—paper, books, chalk, etc.—or as a Tu-dor Combination it may be half storage space, with adjustable shelves, and half wardrobe.

Won-dor (6) may be wardrobe or storage space with shelves. Li-flat (7) holds large drawings, maps and papers flat—or, subdivided, it will carry many small drawings.

Let us send you complete literature about the Lymetco Line. We can not do more here than suggest its usefulness and its quality. Write for fuller information. Lyon Metallic Manufacturing Company, Aurora, Illinois.

THE LYMETCO LINE

Steel Cabinets and Steel Tables



District offices and Representatives in all principal cities.

LYON METALLIC MANUFACTURING COMPANY, AURORA, ILLINOIS.

Consider GuthLite for Your School



Super-Illuminator

"More Light where Most Needed"

The adjustable reflector of this wonderful super-illuminator is a new and exclusive GuthLite feature.

Controls the direction of light vertically and horizontally. Wide light distribution effects real economy in current

consumption. Here is diffused, controlled light—the result of years of specialization in school and college lighting. Plain and ornamental types. You should have the new GuthLite

literature, sent on request.

Prices and Sizes: Plain Ref. Plain Ref. Orn. Band Plain Glass Dec. Glass Dec. Glass Watts Skt. Ref. Size No. Price No. Price 75 to 150 Med. 12½ 8½ x 5 B2821 8.35 B2824 8.90 Mog. 21" 14½ x 6" B2822 11.65 B2825 12.80

The EIDWIN F. GUTTHI COMIPANY

DESIGNERS - ENGINEERS - MANUFACTURERS

Lighting Equipment Sr. Louis, U.S.A.

ADMINISTRATION NOTES

—Supt. A. E. Condon of Lake County, Ind., has proposed a plan for the reorganization of the State Board of Education. The plan provides for the election of members of the State Board by districts, one district board for each congressional district. The district boards will include representatives of county and city superintendents, township, trustees, teachers, school include representatives of county and city super-intendents, township trustees, teachers, school board members, standard normals, and lay-men, including a representative of organized labor. Under the plan, the power to appoint members of the state board of education is taken from the governor, and is lodged within the district boards composed of citizen-groups immediately and vitally interested in public edu-cation.

—St. Louis, Mo. The school board has amended its rule governing the admittance of children to the kindergarten and the first grade.

children to the kindergarten and the first grade. The new rule reads:

"At the age of five years, children shall be admitted into the kindergarten under such conditions as the Superintendent of Instruction may recommend and the Board of Education approve. No pupil shall be admitted to the first grade until he is six years old, except by promotion from the kindergarten. His fitness for such promotion from the kindergarten shall be determined by the principal as in the case of promotions from one grade to another."

—The October issue of "State School Facts"

motions from one grade to another."

—The October issue of "State School Facts" of Raleigh, N. C., gives figures showing the number of teachers, the grades of certificates held, the training of city teachers contrasted with rural teachers, and other information.

The study shows that there are 22,901 teachers employed in the elementary and high schools of North Carolina, as compared with 22,341 in 1924-1925, which is an increase of 560, or 2.51 per cent.

The two most interesting groups into which teachers may be divided are the standard and non-standard. Of the 22,901 teachers employed in 1925-1926, 19,785, or 86.39 per cent, held standard certificates, and the remaining 3,116 or 13.61 per cent held non-standard certificates.

In 1925-1926 there were 13,072 rural white teachers. Of this number, 1,012 held non-standard certificates, that is, their training was less than graduation from a standard high

school; 6,354 teachers were either graduates of standard high schools, or had completed as much as one year in college; and 5,706 had training equivalent to two or more years of college credit.

-The board of education of New York City has voted to reorganize the school lunch system to make it self-supporting. The board has asked Supt. W. J. O'Shea to prepare a report on the entire lunch question. It is the plan of the board to organize lunchrooms in schools where they do not exist.

-A compulsory education law in Cuba re-—A compulsory education law in Cuba requires school attendance of all children 6 to 14 years of age. It is planned, during the next three years, to open 1,000 additional schoolrooms throughout the Republic. In establishing private elementary schools, it is necessary that the sanitary conditions of the building be approved by the local board of health.

by the local board of health.

—New York, N. Y. The present practice of requiring teachers to make out "age-table" reports is a time-wasting effort, according to a recent decision of the local teachers' council. The Council recommended that, since the reports are admittedly of no value to the research bureau, they be dispensed with without loss to the school system. It is believed that a method may be devised that will effect equally good results to teachers and principals without burdening the schools with investigations at inopportune times. It was pointed out that the making of these reports tend to discourage the

************ THE RURAL SCHOOL PROBLEM

The normal schools must offer courses covering a third and even a fourth year of advanced study in problems of supervision and administra-This will open a wide field of service for rural-minded young men and women. It will give them a chance, too, for further advancement and will lead more to turn to the rural courses. These then, are my recommendations: (1) a determined effort to secure better salaries for rural teachers; (2) consolidation of schools wherever possible; (3) better living and social conditions; and (4) the selection of sympathetic rural-minded teachers.—Ezra Lehman, Shippensburg, Pa.

teacher from making use of information which should be obtained in some easier way and use.

—Pupils are grouped according to ability in 35 per cent of the junior and senior high schools in the state of New York, according to 497 replies received to a questionnaire sent out by the educational measurements bureau of the state education department. The grouping is usually effected in the ninth grade, and is based on intelligence tests, though frequently on the teacher's estimate of the pupil's ability or his marks in school. In 147 schools, pupils of different ability are grouped in separate classes, and 109 schools reported that ability groups are formed within classes

—Miss Eva Seabrook, of Yale University, is directing a course on the teaching of arithmetic at Seymour, Conn. The course is voluntary and no allowance is made for it on the salary

-New policies of importance to the high school have been recommended by the administration department of Malad City, Idaho, and adopted by the board of education. The rules went into effect during the school year and are as follows:

Sixteen units will be required for high school graduation and one supplementary unit to include orchestra, glee club, or other non-solids, or a solid selected in addition to required subjects.

2. A student activity fee of \$3.50 will be required of all students at the time of registra-This admits to all school activities

3. Any student not completing three credits of work during the first semester is automatically suspended for the following semester, unless a good reason is given before an appeal board consisting of the superintendent, two faculty members, and two school board members.

A CORRECTION

In the November number, page 64, appeared a description and picture of the Matthiesen School, LaSalle. Ill., which erroneously credited Mr. Sherman Thompson as the architect. Mr. John Hanifan, of Ottawa and LaSalle, Ill., was the architect of this structure.

Progressive School Systems Use Best Educational Method

Young men are being instructed in the technical operations of the print shop. Should they later wish to follow printing as a gainful occupation a more successful career is assured because of the training given in the school. In assisting the student in a thorough preparation for earning a living, a course of printing plays an important part in citizenship training. Horace Greeley said "a printer's case is a better educator than high school or college."

That printing has unusual educational value is quickly shown in the improvement of the students' composition, punctuation, spelling capitalization, division of words and paragraphing. The lessons taught by type—the actual making of the words by hand—are never forgotten. Boys and girls may tire of books,

December, 1926

but typesetting is ever interesting. Printing is a practical educator. Those of talent in designing, or of a liking for mechanics, find real delight in the processes of printing. Primarily schools exist to teach a number of basic subjects of which the English language and its literature, art, science, mathematics and a number of others are important examples.

When books fail to enthuse a boy or girl let type be tried. Type will surely awaken the desire to learn. It is most helpful in the process of education.





Relation of Printing to Other Subjects of the Curriculum

English

Sentence construction, spelling, punctuation, capitalization, division of words, paragraphing, compound words, writing essays for school paper

Art

Study of color harmony and application of color to the printed page. Design as applied to printing. Relation of type as to shape of page. Study of proportion, balance, tone harmony and ornamentation, spacing, hand lettering, mechanical drawing, making layouts.

Journalism

Writing articles for school paper; editing copy prepared for publication (embodying in a general way the subject of English).

Office

Finding cost of production and calculating correct profits; becoming acquainted with efficiency systems, keeping records, filing, general office requirements.

ENGLISH

TYPOGRAPHY

PROOF READING

PRESSIVORE

PRINTING

PRESSIVORE

PRINTING

The Ideal Study
for Schools

ADVERTISING

PHOTO ENGRAPHS

OFFICE

Mathematics

As applied to type spacing, point and pica system of type measurement, estimating cost of composition of straight matter and job printing, the amount of paper required for a job and the cutting of it, the measurement of type masses, relative sizes of type, total cost of production.

Science

Analysis of printing inks, of type metals—lead, tin, antimony, copper (used in the alloying of type metals), mechanical motions and frictions, electrotyping, stereotyping, photoengraving, bookbinding.

Advertising

Psychology of advertising; typography and English of advertising; economical implications, interpretations of principles involved; the relation of theory and practice as related to advertising; mechanical makeup; emphasizing thought; proper methods of finding proportion.

"Printing is One of the Greatest of the Manual Arts," says Dr. David B. Corson, Superintendent of Schools, Newark, N. J., and he adds: "I would like to see a printing shop in every school, not for the teaching of it as a trade, but for its educative power." In this assertion, school executives who are at all familiar with the study of printing agree with Dr. Corson.

Printing correlates with practically all school subjects; especially strong is it in the study of language. The school Art Department, Journalism, Advertising and Commercial Departments, each becomes closely associated with the school print shop, and each benefits. A good course of printing is the best socializer known in the schools of today.

A recent survey made of school printing discloses the fact that 96% of the school papers or magazines are the product of the school print shop, the material being prepared by the student body, and in many cases the Art Department of the school furnishes the illustrations for the paper, as well as for the many printed jobs done in the school print shop, carved in wood blocks or linoleum.

No other school study lends itself in such a useful manner. Thirty years ago printing in schools was an experiment. It is now considered the best course offered and most schools are providing for it. Printing developes a keen sense of appreciation for form, color, design and arrangement.

-- 10 CH-

Write for a free copy of our Superior School Printing Outfit suggestions, with the blue prints of floor plans, and the cost of each

Educational Department Monroe and Throop Streets, Chicago

BARNHART BROTHERS & SPINDLER

Suppliers of Complete Printing Outfits



Underneath the Surface

If any of your schools were erected in the past four years, it is probable that either the gymnasium or shops were floored with Bloxonend.

As you walk over these Bloxonend Floors you no doubt marvel at their attractiveness, resiliency and smoothness. The floors appear to consist of a multitude of small blocks on end, snugly fitted together, over which a giant knife blade had been drawn, bringing the surface to the evenness of a billiard table.

Those are the impressions gained from the "surface." When you go beneath the surface, you find that:

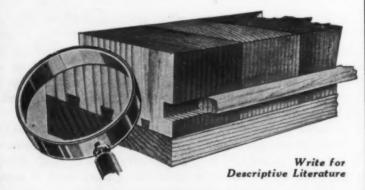
Bloxonend is a scientifically constructed Flooring-not loose blocks.

That it is furnished in 8 ft. flooring lengths with the small tough blocks dovetailed endwise onto baseboards.

That Bloxonend sections come from Mill as accurately milled as the finest parquetry flooring.

That these long lengths are joined together on job with splines in addition to being nailed to floor strips or laterally nailed to each other.

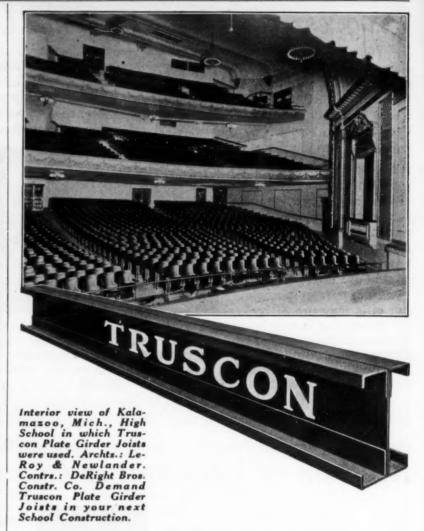
That Bloxonend's unique construction insures lasting smoothness. The entire floor is a composite mass.



CARTER BLOXONEND FLOORING CO.

Kansas City, Missouri

BLOXONEND Lays FLOORING Stays Smooth



Added Safety With Added Economy

Truscon Plate Girder Joists in the floor construction of your school mean three fundamental things:—a high degree of fire safety, a desirable rigidity that cuts down vibration and results in soundproofness, and finally a generous building economy.

When Truscon Plate Girder Joists are used field labor is reduced to the minimum, construction speeded up, and the necessity for special machinery eliminated. These factors decrease construction cost. Yet in every way the requirements of present day codes for school construction are lived up to. Investigate the merits and economies of Truscon Plate Girder Joists now.

Catalog free on request.

TRUSCON STEEL COMPANY YOUNGSTOWN, OHIO

Warehouses and Offices in all Principal Cities



MILCOR Firesafe, Crackfree Wall Construction



Milcor "Expansion" Casing (Patented June 12, 1922 and January 26, 1920). This metal trim, shown here in position in a wall plastered on Milcor Stay-Rib metal lath, eliminates costly wooden casings for doors and windows, blackboards, etc., improves the appearance of rooms, makes hem more sanitary, easier to keep clean — and actually saves money.

Be sure to get this data

We have developed a special type of "Expansion" Casing (No. 9) for biack-board trim. It has been used with great success on some of the finest new schools in the country. Let us show you how it can be adapted to your plans—for new schools or for rebuilt rooms. Our engineering service is offered without cost or obligation. Usually Milcor can improve the building, make it safer, and at the same time show you a saving.

Lecter Trans Your School should be made firesafe. FIVE school fires per day—nearly forty every week—almost two thousand each year! Millions of dollars worth of property destroyed—education is hampered—hundreds of thousands of children and teachers are endangered! Many are killed! If you are planning a new school building, insist on firesafe construction. If the building you are in now is not of firesafe construction, it can be remodeled into a safe building at comparatively little cost. Milcor maintains an engineering service division to help improve construction without undue expense. It will cost nothing and obligate you not a bit to consult Milcor. Write today and outline your plans. MILWAUKEE CORRUGATING COMPANY, Milwaukee, Wis. Chicago, Ill. Kansas City, Mo. LaCrosse, Wis.

MILCOR Firesafe, Lightning-Proof Metal Roofing



Metal Tile - a neat metal roof that render



Milcor Spanish Metal Tile — an ideal, artistic roof with all the above mentioned advantages plus the charm of Spanish tile. These Milcor roofs can be finished

Send for these Valuable Books



ern Modes in Better rring" will give you a new conception of the true value and economy of Milcor metal lath construc-tion methods.

METAL LATH and METAL ROOFING SAFETY for

NEWS OF THE

A CITY SCHOOL BOARD ORGANIZED FOR EFFICIENT ADMINISTRATION

The October issue of School Life contains a brief article by Mr. Frank Shull, a member of the board of education of Portland, Oregon, in which he tells how the Portland board has endeavored to fulfill its obligations to the public. Every member has sought to give the best that is in him for the benefit of the schools. The experience of boards of education in other cities, and the experience in Portland as well, have been drawn upon in establishing certain principles of action, the wisdom of which cannot be ques-

The present board of education of Portland Ore., is conscientiously endeavoring to fulfill its obligations to the public. Every member is striving to give the best that is in him for the benefit of the schools. The experience of boards of education in other cities, and our own experience as well, have established certain principles of action the wisdom of which cernot principles of action, the wisdom of which cannot be questioned.

It happens that the method of conducting school affairs in Portland conforms closely to the best established practice in the country. Three years ago the United States Bureau of Education made an analysis of surveys of schools in various cities and reached the follow-ing conclusions, which in practically every instance, are fulfilled in Portland.

1. A board of education is necessary.
2. The board should be elected by the people.
3. The board should be small, with a membership of about five or seven, elected at large for a term of from five to seven years.
4. School board members should not receive

for service as board members.

Should Have Proper Freedom of Action
5. City schools should be under State control.
The school board should not be hampered in its
work by detailed State laws; it should have

freedom to develop as good a school system as the people of the city want.
6. The school board should be independent of the city officials and should have power to determine within statutory limits the amount to

be spent on schools.
7. There should be few or no standing committees

The school board should confine itself to matters of policy and employ a superintendent and others to execute.

9. There should be but one executive head

the school system, and that head should be the superintendent.

the superintendent.

The first and most important suggestion that I have to make is contained in the last recommendation. The superintendent of schools should be the head of all its departments. In saying this there is no reflection upon the departments as conducted heretofore. Our business and properties departments are well managed, and are giving their best support to the superintendent and the board.

The function of a board of education is identical with that of a board of directors of a business

cal with that of a board of directors of a business corporation. The same principles apply in each case. It is now a well established fact, the result of experience, that the superintendent of schools should be the executive officer of the schools, and all departments should be subject to his control. Under this plan the superintendent will have no hesitancy in asking for information from either business or properties departments, nor should he hesitate to recommend to the board changes in any department that seem to him necessary for the better operation of the schools.

Individual Members Should Not Transact Business

Business

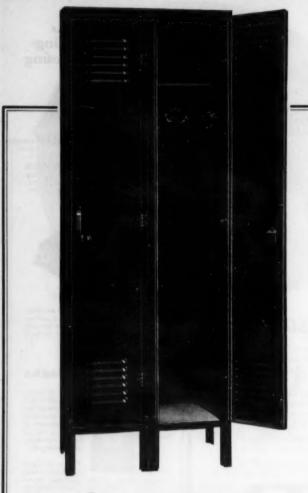
Another practice is also well established in the experience of successful schools. It is that members of the board as individuals "have no more authority in school matters than have citizens of the community." Therefore board members should not encourage citizens, teachers, and others to take their troubles to individual members of the board. All persons seeking favors or making complaints should be referred to the superintendent before any action is taken by the board or by individual members. is taken by the board or by individual members.

In this way valuable time will be saved, and efficiency of the service will be greatly improved. The board should confine its work to matters of policy, and leave details to the superintendent and his assistants. Some matters are given a great deal of time in discussions of the board which should be referred at the beginning to the superintendent and action should await his recommendation. recommendation.

With reference to the selection of textbooks, I think that all will agree that the method recently used was not a success. Principals and teachers gave much of their time to the work, teachers gave much of their time to the work, but it was a responsibility which should not have been placed upon them. The selection of texts should be made upon recommendation of the superintendent. Manifestly it is not possible for him or his assistants to examine all of the texts; but coming constantly in contact with individual teachers and principals, the superintendent is equipped to select those teachers most capable of examining texts for him. Therefore the suggestion is made that the superintendent appoint permanent committees of not tendent appoint permanent committees of not more than five members each to examine texts as they are issued, and make reports in writing to the superintendent of their findings, with the reason therefor. A separate committee should be selected to report on each particular study that is carried on in the schools.

Publishers' Agents Should Submit Briefs It might be advisable to suggest to textbook publishers that their representatives do not call upon members of the committee, but that if they wish they may submit typewritten briefs on the books that they have to offer. Members of the board should be relieved of the necessity of

board should be relieved of the necessity of listening to innumerable representatives of book publishers, with the not unusual result that board members know less than they did at the start about which are the most desirable texts. With respect to the salary schedule, this should also come to the board as a recommendation from the superintendent's office. All the information available from other cities should be secured, and advice received also from the different teaching organizations, but the final decision should rest with the superintendent and his assistants. and his assistants.



Everything a locker should have plus Berloy reputation

E XAMINE a Berloy Steel Locker and notice the durable finish, the sturdy positive locking device and the strong smooth working handle and hinges. Observe the simplicity of the tubular reinforced door, the strength and rigidity of frame and one piece upright sheets which form the sides and back. Consider the importance of these features in lockers which must stand the years of use and abuse to which school lockers are subjected.

And don't forget that back of these service features stand the experience and reputation of the Berloy organization of locker specialists-unhampered by any limitations of manufacturing facilitiesoffering you superior design and sturdy construction at moderate cost.

There is a Berloy representative in your locality who will gladly supply you with complete literature and offer suggestions in planning your installation, entirely without obligation. Write the nearest office.

The Berger Mfg. Co., - Canton, Ohio

Philadelphia

St. Louis Kansas City

Minneapolis

Los Angeles

BERLOY STEEL LOCKERS



No doubt there are other phases of school administration equally important, but an experience of several years on a school board has convinced me of the soundness of these con-

AMONG BOARDS OF EDUCATION

—Stephen M. Wagner was reelected president of the St. Louis, Mo., board of education. On assuming office he said: "You know me as a one-minute speaker. The only thing I have to say is to thank you and hope that from now on we will be a happy family." The board increased the salaries of four executives and renamed the incumbents: R. M. Milligan, commissioner of school buildings at an increase from \$9,800 to \$10,700 a year; E. M. Brown, supply commissioner, \$7,000 to \$7,500; R. L. Daly, auditor, \$7,000 to \$7,500, and H. W. Mc-Namee, secretary, from \$8,200 to \$8,500. John M. Hadley, son of Chancellor Hadley of Washington University, was named assistant attorney of the board.

—Two members of the Terre Haute, Indiana, school beard accounted.

ney of the board.

—Two members of the Terre Haute, Indiana, school board refused to attend a recent meeting with President William F. Mendenhall in the chair. These members, Edward Cowan and Mrs. Virginia Achers, hold that Mendenhall had violated his oath of office by voting to award a coal contract to a firm in which he is financially interested.

—The school heard of Boston Mass, created

coal contract to a firm in which he is financially interested.

—The school board of Boston, Mass., created the office of sanitary inspector and appointed John M. Sullivan to fill it. The city finance commission now charges that "nepotism" had been practiced, that the incumbent is a brother to Edward M. Sullivan, a member of the school board. The commission report says: "Even if the school committee had the legal right to create this office, it is absolutely unnecessary. Matters requiring repairs and alterations are under the care of the force of inspectors of the schoolhouse department. The rules of the school committee provide that the schoolhouse custodian shall be its executive officer "in all matters relating to the care and custody of land and buildings used for school purposes." They empower him to supervise the local schoolhouse custodians and to make sure that their work is properly done. They also require that principals and teachers in charge of buildings 'shall see that the rules and regulations for the

government of custodians and matrons, their assistants and other employees are enforced.' They require school physicians to 'report to the director of medical inspection in writing any unsanitary conditions they may discover in their respective schools.'"

respective schools."

—The school board elections of Los Angeles, The school board elections of Los Angeles, Calif., will be held simultaneously with general municipal elections if the new city charter as now framed is adopted. The change has the approval of Mrs. Susan M. Dorsey, the superintendent of schools. The one-election plan is deemed more economical and more democratic.

—Mr. W. C. Wehe, president of the Milwaukee board of school directors, in a formal address to the board of education on October 5th, made the following recommendation:

"I would recommend that any employee or

"I would recommend that any employee or employees of the Milwaukee school board who, either directly or through an association or through counsel, have any laws enacted by the state legislature which do not receive the approval of a majority of the school board, should be deemed to have violated their obligations to the school system, and should be discharged for cause from the said school system."

—Dayton, O. Irregularities in the annexation of the Harrison township school district to the city system have rendered that action null and void. It appears that members of the school board voted for the annexation of the territory without a study of the resolutions requesting its admittance. employees of the Milwaukee school board who,

its admittance.
—Elgin, Ill. The school board has revised -Elgin, Ill. The school board has revised its rule governing the awarding of contracts to provide that no contract shall be awarded by any committee or member of the board unless authorized by that body. In the past committee chairmen frequently let contracts without first getting the sanction of the board.

-Lansing, Mich. The school board has ordered that unsightly signs on school property must be removed. The order was a result of

must be removed. The order was a result of

must be removed. The order was a result of complaints of property owners against the signs.

—Greenville, O. The school board has asked the citizens to approve an additional levy of not more than three mills for a period of five years.

—The board of education of Toronto, Canada, consists of Wm. C. McBrien, Chairman, M. A. Brillinger, Phm.B., Caroline S. Brown, M.D., A. O. L. Burnese, Percy M. Douglas, F. B.

Edmunds, L.L.B., Wm. R. Flett, J. M. Gordon, B.A., Mrs. W. E. Groves, W. H. Harper, Hugh L. Kerr, B.A., F. R. Marshall, B.A., Loitus Reed, S. J. Thomas, Lorne W. Trull, John Wanless. These are elected directly by the people. W. W. Pearse, B.Sc., C.E., is the business administrator.

—Col. Edward B. Ellicott, president of the Chicago board of education, died on October 23rd after a brief illness. In announcing his death, Superintendent McAndrew said: "It is death, Superintendent McAndrew said: "It is a prime purpose of education to train men and women to serve the people; in his example you have the opportunity to stress this duty in honoring his memory. He served his country in the war. He worked for it in peace. He was a type of genial, generous, good citizen."

—New York, N. Y. President Ryan, in announcing the standing committees of the board of education has announced the creation of two

nouncing the standing committees of the board of education has announced the creation of two new committees. The first is a committee on nominations, which consists of R. A. McKee, chairman, M. Samuel Stern, and W. J. Weber. The committee will study the qualifications of nominees named by the board of superintendents for district superintendencies and for the board of examiners.

board of examiners.

The other committee is one on retirement, which will deal with the administrative employees' pension system. This consists of Mr. Stern, Mr. Weber, Mr. McKee, and Mrs. Margaret McAleeman.

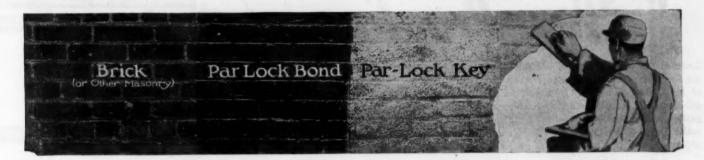
—Two problems now face the New York City board of education in the operation of school lunchrooms. One is the question of making the lunchrooms self-supporting, and the other is that of eliminating the yearly deficit of \$80,000 incurred in supplying lunch service in the

school.

To aid in the solution of the problems, Associate Supt. Gustav Straubenmuller and Edward W. Stitt spent two days in Philadelphia studying the self-supporting lunch system used there. They found that the food cost for school children in Philadelphia is more than that for New York City, and that lunches are not served in as many schools, although Philadelphia has a larger percentage of schools with lunch service. Philadelphia spends \$160,000 a year on its lunches, but the pupils pay the bills.

(Continued on Page 86)

(Continued on Page 86)



President Hotel Has Par Lock Insulation

AMONG the fine hostelries of Atlantic City's popular Board Walk, the President Hotel is conspicuous for the structural qualities that impart lasting comfort and luxury.

Wall leakage of moisture, the bane of many buildings similarly exposed to the driving storms of the seaboard, is entirely avoided in the President Hotel by the application of Par-Lock to the

interior of its 13 inch masonry walls.

Par-Lock means complete dampproofing, plus an effective plaster key. In preventing condensation, Par-Lock supplants furring and thus saves money, space and dead load.

For expert, responsible, Par-Lock service, as well as preliminary counsel and estimates, rely on the nearest Par-Lock Applier or write to

PAR-LOCK

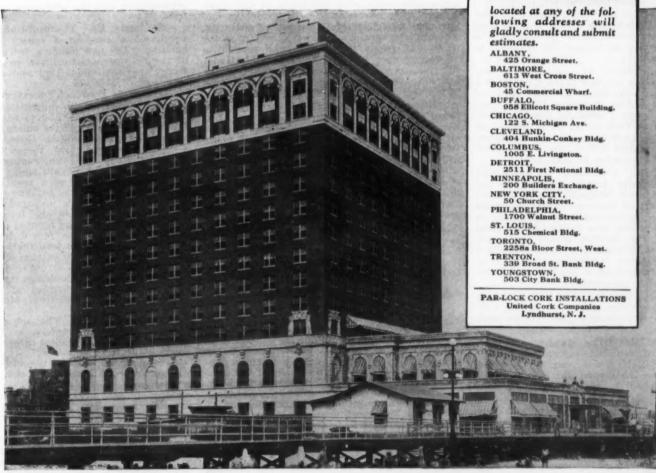
APPLIERS

THE VORTEX MANUFACTURING COMPANY CLEVELAND 1987 West 77th Street

The President Hotel, Atlantic City, N. J., Louis I. Brooks of New York, Architect.

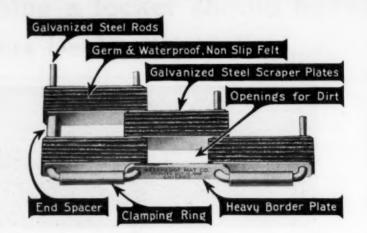
Wm. G. Souders, Inc., Owner and General Contractor. G. A. McGimpsey, Plastering Contractor.

Par-Lock applied by The Par-Lock Appliers of New Jersey.



by They Are Wear Proof

Look at the construction of WEAR PROOF MATS and you can see for yourself why they never wear out. Each link is composed of six strips of asphalt impregnated wool felt, with rust-proof galvanized steel plates on each side, and these links bound together with galvanized steel rods. These are the materials which make WEAR PROOF MATS Wear-Proof, weatherproof, and slip-proof.





WEAR-PROOF MATS

Put Wear Proof Mats in your school and they will "Never Wear Out." They are quiet, safe, sanitary and surefooted. They trap the dirt between the links and keep it from spreading,-and they "roll up like a Rug," making the easiest of all mats to clean and handle.

Over 50,000 buildings and industrial plants use Wear Proof Mats because they end all your mat troubles and mat expense forever. Built in any size or shape to fit any building,-any place. Ask us to show you how Wear Proof Mats will save you money, and give you everlasting service and satisfaction. Write for the Wear Proof Book,-sent Free and postpaid on request.

WEAR-PROOF MAT CO., - 2172 Fulton Street, CHICAGO, ILL.

(Continued from Page 84)

While Supt. Stitt and Supt. Straubenmuller agree that the Philadelphia system is good, they are doubtful whether it would be best for the board of education to compel the children to pay the overhead.

pay the overhead.

—Mr. Joseph Miller, Jr., secretary of the board of education of New York City, in his capacity as vice-president of the National Association of School Business Officials, has begun a drive to enroll members from the various cities of New York State. It is planned to have all the state's school secretaries, managers, and auditors enrolled before the next annual and auditors enrolled before the next annual meeting of the association in May, 1927.

—Glendale, Calif. Students of the union high school who illegally joined fraternities and sororities and since resigned, are prohibited from taking part in extra-curricular activities and will not be recommended for admission to universities, according to a ruling of the board of education. The decision means that such students will not be eligible to election to class effects to participation in athletics or other consideration. offices, to participation in athletics or other contests, or to participating in dramatics, debates or work on student publications.

A further ruling is to the effect that a student who in the future violates the state law regarding high school societies and clubs will be dealt with according to law.

—Ann Arbor, Mich. The board of education has discontinued religious instruction in the public schools for the school year. In response to a request for the course, the vote resulted in six votes against the proposition.
 —Hutchinson, Kans. The board of education

Hutchinson, Kans. The board of education has adopted a policy that the prosecution of acts committed against the school property fall in the category of criminal acts and that the disposition of the cases shall be left to the prosecuting officers of Reno County. The action followed the defacement of the senior high school building by three students.

The board on its part, has barred the offenders from all class honors and has ordered that the school building be restored to its original con-

—The Virginia State Board of Education has taken action to safeguard the lives of children

transported daily over the roads of the state. A resolution was adopted calling for the employment of school truck drivers of maturity, who shall be cautious in driving, careful in the control of pupils in the bus, and thoughtful of their proper behavior and conduct. Under the rule, such drivers must be 21 years of age and have training and maturity equal to that of the average person of this age.

—Houston, Tex. The school board has proposed the erection of a three-story administration building next year. The building will be of modern, fireproof construction, will house twenty departments of the school system, and will cost approximately \$110,000. The building will be located on a site now owned by the board of education and will be erected with funds from

of education and will be erected with funds from the present bond issue. Mr. H. D. Payne, school architect, has undertaken the preparation of the preliminary sketches for the building.

-The parent-teachers' club of Omaha, Neb., has adopted a platform favoring a business manager for the schools, who shall be strictly responsible to the board. The club favors the application of business principles to the school

THE SCHOOL PRINCIPAL

Too many of our principals belong in the cloister and not at the head of a big public school. They lack red blood. They are not good mixers. They are timid. All big business knows that publicity is the life of trade. But many of our principals shrink from giving their schools publicity. cipals shrink from giving their schools publicity. They consider it unethical and not professional. Yet these same principals denounce the public's indifference to school matters. People are not generally interested in things of which they have no knowledge. Many principals pride themselves on taking no part in politics and are absolutely colorless on questions that arouse other citizens to a white heat. This is wrong. The principal should not be an offensive partisan or a tactless hothead, but he should be the best-versed man in his district on current politics. In no other way can he command the support for his school to which it is entitled.—Ide C. Sargeant, Paterson, N. J.

organization and the patronage of home indus-

tries.
—St. Louis, Mo. The board of education has purchased a site for a school administration building. The new building will take the place of the present structure now in use. The site at a cost of \$106,000.

-The State Board of Education of Texas has

—The State Board of Education of Texas has raised the per capita apportionment for the public schools from \$11.50 to \$14. The action followed the signing of the emergency appropriation bill of \$3,500,000 by Governor Ferguson.

—On November first there were 23 new school buildings under construction in New York City, providing 28,955 sittings. While this is almost the same total as a year ago, the prospect for speeding up the building of new schools is not bright. A table prepared by the education department shows the fluctuations since September, 1923, of the number of sittings under construction. The record total of school sittings under contract was reached in September. sittings under contract was reached in September, 1924, when 149,880 sittings were under conber, 1924, when 149,880 sittings were under contract. On February 1, 1924, plans were in preparation for new buildings to house 70,745 pupils. The lowest number of sittings were reached in the period from March, 1926, to November, 1926.

—Branford, Conn. The school board will present to the town voters, in January next, plans for a new high school to replace the present building.

plans for a new high school to replace the present building.

—Youngstown, O. The school business director has reported to the board that thirty rooms a year will be needed to properly house the children in the city. The normal increase in enrollment is 1,200 pupils a year making it necessary to provide thirty new rooms each

The present plan of building expansion pro vides for two buildings a year on opposite sides of the city. The business director points out that the present plan of building one school a year will not take care of the pupils.

—The New York City board of education has approved plans for a school in South Jamaica, Queens Borough, to cost \$583,000. The school will have two gymnasiums, a playroom, and an auditorium, and will accommodate 901 pupils.

(Concluded on Page 88)



The most economical flooring

1906 - 1926

Twenty years' successful experience in the manufacture of magnesia flooring is your assurance of the responsibility that stands behind an unusual guarantee.

Franklyn R. Muller, Inc., is the oldest and largest manufacturer of magnesia flooring — a flooring that should not be confused with mastic or any other flooring on the market.

This is your protection



Asbestone is a magnesia product, produced by the oldest and largest manufacturers, from the highest quality materials.

It is the most highly standardized quality magnesia flooring, and it is the most economical flooring known to modern science.

Asbestone Flooring is applied in plastic form in two coats, by our own experienced mechanics. Hygienic—Fire-proof—Resilient—Easy to the Tread.

The floors are the most important part of a school, they are more used and abused. Asbestone is the one material for providing beautiful, economical and enduring floors—floors that will enhance the value and appearance of any building.

Samples and prices submitted on request.

FRANKLYN R. MULLER, Inc. 814 MADISON STREET, WAUKEGAN, ILLINOIS

PROFESSIONAL SCHOOL SERVICE DIRECTORY

CLARENCE D. KINGSLEY

EDUCATIONAL CONSULTANT ON SCHOOL BUILDINGS

Organization of Efficient Program of Room Preparation of Economical Room Layouts Criticism of Sketch Plans

Hotel Windermere, CHICAGO. ILL

A. M. ALLEN & COMPANY

Architects & Engineers

7016 Euclid Ave.

Cleveland, Ohio

Telephone: Penna 3140

CARL F. PILAT LANDSCAPE ARCHITECT

Specialist in the design and development of Institution Grounds and Playground Parks ociated Technical Advisory Corporation Consulting Engineers Member, American Society of Landscape Architects New York City

LESLIE E WHITE

LANDSCAPE ARCHITECT

Playground Engineering and the Landscape treat-ment of Institutions and School Grounds. Specializing in the development of school grounds in the Guif States.

Lafayette, Louisiana

B. ASHBURTON TRIPP

Landscape Architect and Town Planner Designer of

SCHOOL AND INSTITUTION GROUNDS

Guardian Building

Cleveland, Ohio

Member, American Society of Landscape Architects

ALFRED KELLOGG

Consultant to School Departments

Pertaining to Central Plants, Heating and Ventilation,

89 Franklin Street.

Boston Massachusetts.

WALTER E. GILLHAM

ARCHITECTURAL ENGINEER

Specializing in The Design of Heating, Ventilating, Plumbing, Electric Wiring and Refrigeration Systems.

NOT A SALES ENGINEER

409 Interstate Bldg. Kansas City, Mo.

CHARLES FOSTER

CONSULTING ENGINEER

Heating, Ventilating. Plumbing and Lighting for Schools.

Professional Service for Architects

512 Sellwood Bldg.,

Duluth, Minn.

POWER PLANTS HEATING & VENTILATION ELECTRICAL & SANITARY WORK

SPRAGUE & SLOCUM

50 East 41st Street. New York City

25 Years Successful Practice in the Art of Ventilation

WELLS & HUDSON

Architects & Engineers

Specializing in School and College Buildings in Northern New England

Hanover, N. H.

SCHOOL FINANCING

For the past fifteen years we have specialized in the purchase of School Bonds. rnish blank bonds, prepare proceedings and attend to all legal details relating to proposed bond issues. If you contemplate New School Financing Write us Today

THE HANCHETT BOND CO.

Chicago, III.

Established 1898

JOHN NUVEEN & CO.

Municipal, County & School Bonds

We have assisted in the financing of schools in every part of the country during the last 27 years. Information and advice gladiy furnished without obligation.

First National Bank Bldg.

CHICAGO

(Concluded from Page 86)

The board of education has asked the city board of estimate for \$1,000,000 for the acquisition of school sites.

—New York, N. Y. The board of education has asked the board of estimate for an issue of \$1,000,000 corporate stock to cover the cost of school construction work. The new funds have been asked to make up a deficit in funds for the present building program.

—Philadelphia, Pa. The past year was an active one for the building department of the board of education. In October, nine new buildings were completed, affording accommodations for 12,900 pupils. The annual report shows that two administrative divisions were added; sites obtained for two senior high schools and for eight other schools, and one school of practice organized. organized.

In addition, 33 new classes were formed for various types of handicapped children. The part-time sessions were reduced from 40,219 to 6,193.

-Steelton, Pa. The school board has begun an advertising campaign preceding an election for a bond issue of \$250,000. Advertising posters were prepared to show the bonded indebtedness of the district, the assessed valuation of the taxable property, and the enrollment of the schools.

—Monroe, Mich. The members of the school board recently visited Dearborn, Muskegon, Grand Rapids, Bay City, Flint, and Lansing where they obtained valuable suggestions for the proposed new high school. Supt. C. W. Crandell accompanied the members on the investion trip. spection trip.

—The Muessel School at South Bend, Indiana, was dedicated on October 29th with a special program. The building contains thirty classrooms, an auditorium, a gymnasium, and a lunch room. The plans for the building were made by Architects Freyermuth & Maurer, of South Bend, and the building was erected by Kuehn & Jordan, general contractors, of South Bend.

—Belleville, Ill. A change in school hours became effective in November as a result of new rules adopted by the board of education. Pupils of the first and second grades leave school at 3:15 o'clock, while pupils of the third, fourth,

fifth, and sixth grades are dismissed at 3:30 o'clock. Under the rules, grades one and two begin the morning session at nine o'clock and are dismissed at 11:45 o'clock. The afternoon session is resumed at 1 o'clock and is dismissed at 3:15 o'clock.

—Virginia Allen, 9, a school girl at Port Fulton, Ind., is obliged to remain at home, pending a decision of the courts, because she attended classes wearing knickers. A mandamus has been filed by Mrs. Fayhma Allen, mother of the girl, to force the school authorities to readmit Virginia to school.

—School census figures recently made public in the 83rd annual report of the Detroit board of education show that the school population has increased 8.4 per cent in 1926 over 1925. The report shows that there are 311 school buildings representing an investment of \$75,810,472.

-State Supt. V. M. Riegel recently passed a rule that Ohio schools may not use projection machines for entertainment purposes. It is explained that, under the rule projectors may not be used during school hours for recreational purposes, but they may be used after school sessions for other than educational purposes. Permission for the use of a motion picture machine after school hours may be granted by the board of education.

—A Citizens School League was formed at Detroit, Mich., for the purpose of securing the elimination of the platoon system from the school system of that city.

—Mrs. C. W. Adams of Alabama, defines the purpose of the Parent-Teachers' Association movement as follows: (1) To promote child welfare in the home, in the school, in the church and in the community; to raise the standards of home life; to secure more adequate laws for the care and protection of women and children; (2) To bring into closer relation the home and the school, that parents and teachers may cooperate intelligently in the training of the child, and to develop between educators and the genand to develop between educators and the gen-eral public such united efforts as will secure for every child the highest advantages in physical, mental, moral and spiritual education.

-"The privilege of learning should be raised to a high premium by processes of exclusion,"

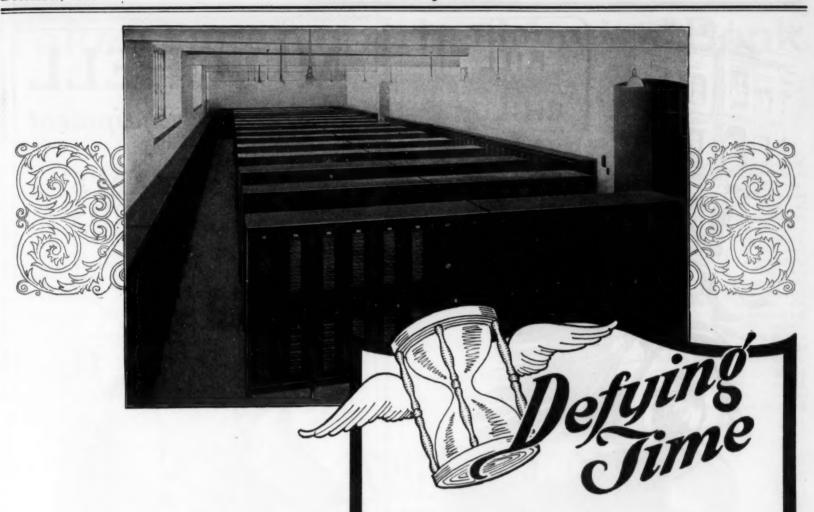
said Secretary Hubert Work, of the Department of Interior. "Colleges should no longer be a possible refuge for the indolent or a temporary retreat for the defective. They should be known as advanced schools for the aristocracy of mind and morals to which intellect and the habit of industry shall be prerequisites for admission."

—The Muskegon, Michigan, board of education barred G. Sherwood Eddy, international secretary for Asia of the Y.M.C.A., from speaking at the high school auditorium because it was alleged that he was "a propagandist for Soviet Russia."

-Dr. Otto L. Schmidt is slated to succeed as president of the Chicago board of education the late Col. Edward B. Ellicott. He is president of the Chicago Historical Society.

—The county school board convention held at Kewaunee, Wis., was attended by 150 members. The convention was conducted by George S. Dick, supervisor of rural schools, who talked on "Improvement of Rural Schools," Dr. H. B. Sears of the State Board of Health, who discussed "Safeguarding Public Health," H. R. Lethers County Acent, whose subject was "The Duties of the County Agent, whose subject was "The Duties of the County Agent," George H. Crowns, County Judge, who explained "Probate Work," John Stoffel, Supervising Teacher, who gave a talk on "The Failures in the Diploma Expensionisms." Examinations."

-President George J. Ryan of the New York City board of education, has been made an honorary member of the Thomas Jefferson Memorial Foundation. The foundation in conferring the distinction said: "Through you we seek to honor also the members of the board of education of the city of New York, including Joseph Miller, Jr., your secretary, who has indeed taken a leading national position through the chairmanship of the national educational committee, of which he was the organizer and is still the active leader. We also wish to honor through you Dr. William J. O'Shea and his associates on the board of superintendents and that splendid corps of principals and teachers who comprise the great system of education in New York City."



MEDART STEEL LOCKERS

"The Standard by which all Lockers are judged" Years roll by. Styles may change. Conditions vary. But Youth—never! Jostling, kicking, struggling, heedlessly abusive youngsters tear through evening crowded locker-rooms. A yank at the door. A tug on a hook. The locker-door slams—and the room is empty.

That is the sort of strain under which Medart Steel Lockers must stand up. They are built for it. They are warp-proof. Doors can't sag. And they keep their clean, attractive appearance. That's why Medart Steel Lockers are considered the standard by which all lockers are judged. Write for Locker Catalog A-2.

Gymnasium Equipment

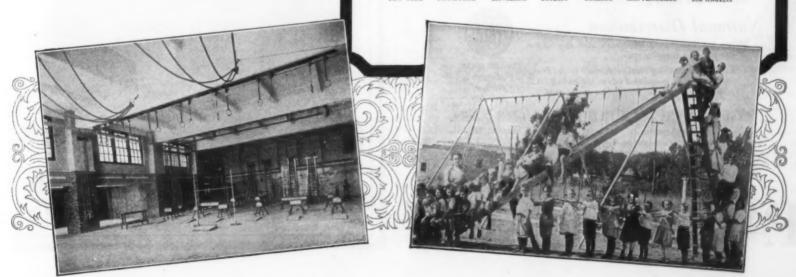
Medart equipment is found in the finest outfitted gymnasiums throughout the country. The perpetuation of the ideals of Fred Medart, who in 1873 started the manufacture of gymnasium equipment, is responsible for the widespread practice of considering Medart the standard. Complete description of the most modern gymnasium apparatus made will be found in 92-page Catalog L-6. Send for it.

Playground Equipment

Three requirements must be met with in designing playground apparatus—attractiveness to the child, absolute safety under the most severe treatment, and a rugged durability which will withstand all weather conditions over a long period of time. The Medart organization, with a wealth of experience, have built all of these qualities into Medart Playground Apparatus. Send for 40-page Catalog M-5.

FRED MEDART MANUFACTURING CO. 3530 DeKalb St. , , , St. Louis, Mo.

NEW YORK PITTSBURGH CLEVELAND DETROIT CHICAGO SAN PRANCISCO LOS ANGEL





Signs warn PAGE protects

School grounds—where so many small feet rush back and forth—are a problem this day of heavy motor traffic.

In their enthusiasm at play, youngsters forget the dangers of the street. Almost unavoidable injury—sometimes death results. Who is responsible?

"SLOW DOWN—SCHOOL"—is just one more sign to some drivers. Page Fence draws the safety line between the yard and street. Superintendents of schools specify it where protection is needed for buildings and grounds.

National Distribution

Write for illustrated literature and the name of the nearest distributor.

Copper bearing steel or Armco Ingot Iron, heavily galvanized after weaving. All fittings, too, zinc coated to resist rust.



TRADE MARK

America's

first wire.

PAGE FENCE and WIRE PRODUCTS ASSN.

215 N. Michigan Avenue Dept. 112 Chicago, Illinois

Distributing wire link products made by the Page Steel and
Wire Company, Bridgeport, Conn.

An Associate Company of the American Chain Co., Inc. District Offices: Chicago, New York, Pittsburgh, San Francisco In Canada: Dominion Chain Co., Limited, Niagara Falls, Ontario.

PAGE FENCE

MITCHELL

"Betterbilt" Equipment

"UNCLE SAM'S"
PLAYGROUNDS



The Merry-Whirl

For boy and girl
The Merry-Whirl
Just simply can't be beat.
It's the "Cat's meow,"
And the "Dog's bow-wow,"
And the playground's choicest treat.

When school is out,
With joyous shout,
To the Merry-Whirl we race.
There's room for all,
Both large and small,
And each finds a comfy place.

But John and Sue,
And Harriet, too,
'Way down by the railroad track,
Can't have this fun;
For there's not anyone
To provide this joy that they lack.

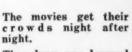


MITCHELL MANUFACTURING CO.

1801 Forest Home Ave.

Milwaukee, Wis.

Takea Page from the "Movies" Book



They long ago learned that money spent in providing seats from which every attendant could have a clear view of the proceedings was money well spent.

In almost every town on the night of a game a certain number

game a certain number of people will go to the movies, certain others will always go to the game, but there is still a large third class who may be undecided. Offer them good comfortable seats and they'll be pretty apt to come your way, for the American people love their sport . . . But they like to take it sitting down.

Give it to them that way by providing them with safe comfortable seats in Circle A Bleachers. See how many of them come that would otherwise go to the movies or stay at home. That's the crowd that means money to you . . .

Circle A Seats are sectional and portable.
They are built with spe-They are built with special mitred sections to make every inch of space in a gymnasium available for seating. Circle A Bleachers will stand up to any test to which a crowd may put them. They are locked, and locked securely, against slipping forward, back or sideways. Every feature on them is worked out to provide the maximum of safety, convenience and comfort. They are made in any combination of tiers and sections to seat your crowd, be it fifty or five thousand.

THE FACTS ABOUT CIRCLE A BLEACHERS Send for the folder "The Facts About Circle A Bleachers" . . . It deals fully with both the construction and the facts of the use of Circle A



CIRCLE A PRODUCTS CORPORATION

600 South Twenty-Fifth Street



KANSAS CITY SCHEDULE

—The school board of Kansas City, Missouri, has adopted a new schedule for the teaching and supervisory staffs of the city schools. Teachers in the elementary schools will be paid \$1,200 for the first year's service, \$1,300 for the second, \$1,375 for the third year, \$1,450 for the fourth year, \$1,525 for the fifth year, \$1,600 for the sixth year, \$1,675 for the seventh year, \$1,750 for the eighth year, \$1,825 for the ninth year, and \$1,900 for the tenth year. The schedule is based upon a year or more of probationary service, the probationary service to be paid at the rate of \$100 per month and to continue for at least a year.

rate of \$100 per month and to continue for at least a year.

Principals of elementary schools have been granted a raise in the maximum salary from \$3,450 to \$3,800, with \$200 additional for principals who hold the master's degree. Elementary schools are divided into four classes, called A, B, C, and D classes. Class A schools have an average daily attendance of 700 or more pupils, Class B schools an attendance of 500 or more pupils, and Class C schools an average attendance of 300 or more pupils. Under the schedule, the annual salaries of principals are as follows:

of arts from a standard college or university, and who posesses superior qualities as a teacher and secures superior results in the classroom may, upon the recommendation of the principal of the high school and the superintendent of schools, be granted \$100 in addition to the regular salary. A teacher who holds the degree of bachelor of arts from a standard college or university, and who has had in addition, thirty semester hours of graduate work, may substitute this work in lieu of a master's degree. Teachers granted leave of absence for professional study may be reappointed and advanced in the schedule and promoted as though they had remained teachers in the schools.

Principals of high schools, without master's degrees, have been raised from \$4,500 to \$4,800; with master's degree from \$4,700 to \$5,000. High schools are divided into three classes: Those having an average daily attendance of 1,400 or more students, known as Class A schools; those having an average of 1,100 and less than 1,400 and known as Class C schools. The salaries of high school principals are paid in

than 1,100 and known as Class C schools. The salaries of high school principals are paid in eleven installments and are as follows:

in excess of the minimum requirements by credentials; who possesses superior qualities as a teacher and secures superior results in the classroom, and who has served one year at the regular maximum salary of \$1,900.

regular maximum salary of \$1,900.

Any teacher who has had ten years' experience in teaching of which four years have been in Kansas City; who presents sixty hours of normal, college, or university credit in academic and professional preparation, in excess of the minimum requirements for eligibility; who posesses notably superior results in teaching; who has served one year at the maximum salary of \$2,100 may, upon the recommendation of the superintendent and the board, receive \$2,200 or \$2,300 per year.

Any teacher who has met all the requirements

\$2,200 or \$2,300 per year.

Any teacher who has met all the requirements and has for one year received a salary of \$2,300 and holds a master's degree may receive an additional \$200 provided the degree is taken in elementary education in a standard university and that the teacher has completed 24 semester hours of senior college or graduate work in education and eleven hours of graduate residence work in elementary education.

The super-salaries provided are not given for

The super-salaries provided are not given for access in preparation alone, but depend

Principals of A high	schools	2nd yr. \$4,600	3rd yr. \$4,700	4th yr. \$4,800
	schools 4,200	4,300	4,400	4.500
Principals of C high	schools 3,900	4,000	4,100	4.180

schedule also offers advances for superior teach-

addition

The maximum salary for high school teachers has been raised \$100. High school teachers are classified into four groups, with salaries for each group as follows:

classified into four groups, with salaries for each group as follows:				ration and superior service shall be given any teacher who has had eight years of experience				
Group		1st yr.	2nd yr.	3rd yr.	4th yr.	5th yr.	6th yr.	7th yr.
I			\$2,800 2,600	\$2 900 2.700	\$3,000			****
III			2.100	2.200	2,300	2,400	2.500	
			1,500	1.600	1.700	1.800	1.900	2.000

Under the rules, teachers who fail to comply with the requirements will not be entitled to the advances provided by the schedule. A high school teacher who holds the degree of master

ing and superior scholarship. It is provided that suitable compensation for extended prepa-

to the regular salaries,

in teaching, of which three years have been in the Kansas City system; who presents forty semester hours of normal, college, or university credit in academic and professional preparation

primarily and chiefly upon merit or the quality of teaching. Excess in professional preparation above the minimum requirements has no value to the school unless it results in better service

TEACHERS AND ADMINISTRATION

—State Supt. Charles A. Lee of Missouri has approved an equitable retirement fund for teachers. Mr. Lee, in speaking on the subject, held that it attracts capable teachers to the teaching profession, and it retains others who might take up other lines of work because of the fear of want in old age.

—Lynn, Mass. With one dissenting vote, the school board has voted not to consider candidates for teachers' positions, if they smoke cigarets or drink liquor. The action was the result of a request of the Mayor who asked

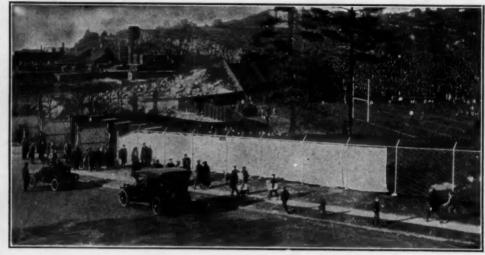
SCHOOL







PLAYGROUND



The Athletic Field Must Be Strongly Fenced

The lively interest in athletic contests of all kinds indicates the desirability of making a charge for admission—which is possible only with a fenced athletic field.

A good fence controls entrance to the field—and the collection of tickets. The admission revenue will go a long way toward defraying the cost of a real fence. And, having it, the field and its equipment are guarded safely at all times.

The fence must be strong, to handle the press of a crowd. It should be 7 or 8 ft. high and barb-wire topped to be non-climbable. For permanence you will naturally choose chain link wire fabric, and a heavy framework.

Let us send you our Catalog of School and Athletic Field Fences — you will find in it suggestions of value. Our near-by representative will call, if you wish.

Estimates cheerfully furnished.

The Stewart Iron Works Company (Incorporated)

American Fence Construction Co.

420 Stewart Block, Cincinnati, Ohio

225 West 57th Street, New York, N. Y.

Agents and Representatives in all Principal Cities





ENCLOSURES

that teachers and janitors who smoke or drink be dismissed.

—Pontiac, Mich. The school board has approved bonuses for 44 teachers who earned them through travel or summer school study. The bonuses ranged from \$25 to \$100, with the

The bonuses ranged from \$25 to \$100, with the average at \$50.

—The Washington County, Virginia, school board passed a motion at its October meeting to delay the paying of the teachers in the county until after the second school month had passed on account of no available funds for the payment of the September salaries. It also voted not to issue the school warrants until after the first of November.

—Kansas City, Mo. The school board in revising its regulations governing teachers has added two new features which are intended for the advancement of the teaching staff. The first provides that any teacher, principal, or supervisor who presents a transcript showing the completion of four semester hours of college work in a summer school, shall for the following year receive \$100 in addition to the regular

work in a summer school, shall for the following year receive \$100 in addition to the regular salary paid her. Such an advance in salary is paid only to teachers who have served in the city schools for at least twenty weeks prior to the summer school attendance.

The board has also ruled that any teacher, principal or supervisor having taught six years in the Kansas City schools may be granted a leave of absence for one year for study, research, or investigation for improvement of herself as a teacher. Such a teacher will be paid \$20 per month in addition to her regular salary for a period of five years following this program of self improvement. In the selection of teachers for leave of absence, length of service, priority of application, and circumstances affecting the case are given consideration.

ation.
-St. Louis, Mo. In carrying forward a policy of the board of education looking toward higher training and efficiency for teachers in elementary schools, it has been recommended that the two-year courses in the Harris Teachers' College and the Sumner Teachers College be withdrawn and discontinued. It is provided that students who have entered upon

shall be allowed to continue.

The two-year course has been replaced by a four-year course of study for prospective teachers in training. The board has also authorized the payment of higher initial salaries

authorized the payment of higher initial salaries to elementary teachers with more than two years of college training.

—Upon the recommendation of Supt. Herbert H. Weet, the board of education of Rochester, N. Y., has revised its salary schedule for elementary teachers who have served twenty years or more, and who have done advanced professional work. An additional salary of \$100 will be allowed any elementary teacher who has had twenty years' satisfactory experience in the Rochester schools. No allowance is made for more than thirty years of service.

For each year of training beyond the two-year normal course, an allowance of \$100 will be made to the salary otherwise available for elementary teaching positions, provided the quality

year normal course, an allowance of \$100 will be made to the salary otherwise available for elementary teaching positions, provided the quality of the service is satisfactory.

—The board of regents of New York State has approved a recommendation of Commissioner F. P. Graves providing for a fourth optional year at the State Normal School of Buffalo. The school is authorized to grant the degree of bachelor of science in education to graduates of the four-year course. A four-year collegiate course in home economics has been maintained for the last five years.

—Mayor James Walker of New York City, and President George J. Ryan of the board of education, have appointed a committee of fifteen to make a study of teachers' salaries. The committee will study the city's finances and consider legislative measure whereby the schools may receive better aid. The Mayor appointed: Lincoln Cromwell, third vice president of the Merchants' Association, who will be Chairman; William C. Bagley of Teachers' College; Mrs. John Blair, member of the Citizens' Committee

on Teachers' Salaries; John Down, president of the Maritime Exchange; John J. Duffy, manu-facturer of building materials; Walter G. Dunn-ington, Mrs. William H. Good of the board of higher education; State Senator James A. Hig-gins, Frederick H. Lisman, banker, and Cornelius J. Sullivan, attorney.

ington, Mrs. William H. Good of the board of higher education; State Senator James A. Higgins, Frederick H. Lisman, banker, and Cornelius J. Sullivan, attorney.

Mr. Ryan appointed H. C. Flanigan, Bronx merchant; Walter E. Frew, President of the Corn Exchange Bank; R. W. Higbie, Queens' civic worker, and a member of the Board of Regents; Tristram W. Metcalfe, school editor of the Evening World, and Dr. Edgar D. Shnier, retired associate superintendent.

—At Beloit, Wis., the teachers who received between \$900 and \$1,000 numbered 11; between \$1,000 and \$1,100, 17; \$1,100 and \$1,200, 15; \$1,200 and \$1,300, 24; \$1,300 and \$1,400, 24; \$1,400 and \$1,500, 30; \$1,500 and \$1,600, 16; \$1,600 and \$1,700, 11; \$1,700 and \$1,800, 11; \$1,800 and \$1,900, two; \$1,900 and \$2,000, three, and more than \$2,000, 11. "The salaries of teachers, principals and the superintendent together for last year totaled \$254,200," Superintendent Converse said. "Divide this figure by 175 and we have the average salary of all teachers, \$1,450. This is approximately the average salary of janitors of our schools."

"For the first time since the beginning of the war the supply of better trained teachers has caught up with demand. We may reasonably look for a more general improvement in the professional training of our teaching force in the next ten years. Every improvement in the quality of the teachers and the quality of the teachers will be followed by better training and better education of the children who attend the schools," said State Supt. Francis G. Blair of Illinois, recently. "Boards of directors and boards of education should be aided in their effort to substitute good teachers for those who are not qualified."

—The oversupply of teachers has caused a drop of 431 in student enrollment of the nine normal schools of Wisconsin. Last year the total enrollment was 5,089; this year, 4,653.

(Concluded on Page 94)



FUN-FUL Playground Equipment is the result of experience, a quarter of a century devoted exclusively to the development and manufacture of children's outdoor health building goods by this Company. The best you can buy, this we guarantee.

We offer the most comprehensive line to select from, nothing but approved and guaranteed apparatus.

Sold by the leading school supply houses thruout the United States, Canada and Mexico.

Largest manufacturers of Playground Equipment

Awarded Gold Medal Brazilian Centennial Exposition, 1923

HILL-STANDARD CO.

ANDERSON Established 1900 INDIANA, U. S. A.

CESS!

EMANDS STEEL OCKERS





with a locker that assures extra protection against fire, contagion, rodents, vermin, petty thievery, cluttered floors and damaged walls, adding the years of service which distinguish quality from mediocrity. Our reputation for superior quality at attractive prices has been earned and sustained since the first steel locker was built for commercial use—BY DURAND.

upon the doors, abuse the handles and kick the sides - Durand correctness of design and strength of construction will withstand it. That's why we get the call from buyers who know

When you buy lockers have your engineer or ours explain the difference. It's quality built into the door, door frame, locking device, handle, top, bottom, sides and back.





Every employer should have a copy of our catalog. Where shall we send it?

(Concluded from Page 92)

(Concluded from Page 92)

—In discussing certain phases of teachers' organizations the Milwaukee Journal says:

"The danger is that the teachers will foster class consciousness. That, unfortunately, has been done in too many places where teachers have organized. They have tried to promote the idea that the teacher is paramount, when she is not. She is part of a system, a very essential part. That system should respect her individuality and give her credit for what she does. She should have leeway enough to make her classroom the best in her town or county, if she can do it. But she cannot forget that there is an administrative side to the schools which must be in authority."

—"We have a smaller percentage of competent teachers than has England, France, Peru, or Alaska, and yet we boast of our schools," said Pres. C. D. Coffman of the University of Minnesota, recently. "We have 600,000 teachers in this country who have not the equivalent of a high school and two additional years of study."

—The administration department at Revere,

study

—The administration department at Revere, Mass., recently submitted a questionnaire on inexperienced teachers to all city superintendents in the State of Massachusetts. A total of six questions were asked.

Replying to question one, Does your city have a cadet system for inexperienced teachers? fifteen cities reported yes, and 23 no.

Replying to the second question, What is the cadet's salary? it was noted that in many cases the answers were not definite. The lowest the answers were not definite. The lowest salary reported was \$600. Several reported "same as substitute salary," and some reported "five dollars a day," and others \$800.

To the third question, Does the city hire inexerienced teachers as classroom instructors? fourteen cities reported yes, and 24 no.

To the fourth question, How much training experience is required to qualify for a teaching position? fourteen reported no experience, twelve one year, five two years, one three years, and one two years of high school and one year of elementary school. Three cities had no fixed requirement requirement.

To the fifth question, Does your city hire graduates of the private normal schools for

grades above the first? fourteen cities reported

yes, and 24 no.

In answer to the sixth question, Do you consider it advisable to appoint cadet teachers, or assistant teachers at a lower salary than the minimum? eighteen reported yes, and nineteen

—Teachers in the Gilbert School, Winsted Conn., who have completed twenty years of service, and whose salaries are paid in full by the school, are entitled under a recent resoby the school, are entitled under a recent resolution of the trustees, to leave of absence with full pay for the next school year. Instead of this, they may teach the whole or any part of a year, and receive as much of an additional full year's salary as the number of weeks taught bear to the number of weeks in the school year.

—Mr. James A. Brawner, for many years a member of the board of education at Griffin, Georgia, has given \$50,000, the interest from which is to be used to supplement the salaries of the teachers in the high school. The gift is a memorial to Mr. Brawner's brother.

—The board of education of Alamosa, Colo., has entered into an agreement with the Adams State Normal School, which allows the Normal

State Normal School, which allows the Normal school the privilege of using the school system as a practical laboratory for observation and demonstration on the part of students in training. Under the arrangement, the superintendent of schools is the director of training for the Normal school, and two instructors of the latter

Normal school, and two instructors of the latter are supervisors in the schools under the direction of the superintendent.

College Teachers Hold Meeting
The National Society of College Teachers of Education will hold its annual meeting February 27th to March 3rd, at Dallas, Texas, in connection with the meeting of the Department of Superintendence. Headquarters will be in the Hotal Jefferson

Superintendence. Headquarters will be in Hotel Jefferson.

President W. S. Monroe has announced that the morning meetings will be for members only. The Monday afternoon meeting will be devoted to the subject, "Graduate Work and Research," and the Tuesday afternoon meeting will be a joint session with the Educational Research

A Teachers' Clubhouse
The teachers' club of Muskegon, Michigan,
during the past year, undertook a unique enter-

prise with the initiative of its president, Mr. Douma of the printing department of the Hackley Manual Training School.

In the spring of 1926, with \$2,200 obtained by selling twenty-five dollar bonds to its members, the club acquired a three and one-half acre tract of land on Lake Michigan between four and five miles from the city.

Plans for the clubhouse were drawn by members of the faculty skilled in this line, more bonds were sold, material was purchased and transported to the spot, and the male members undertook the erection of the building. After school and on Saturdays, the male members worked in shifts and relays, while the female members prepared and served lunches and

dinners.

The building was completed this fall and is The building was completed this fall and is awaiting furnishings and lights, which have been donated by various schools and clubs. The building is two stories in height, with a large porch facing the lake. The large main room is intended for parties and dancing and is supplemented by a small clubroom below. A kitchenette and two dressing rooms complete the facilities provided ities provided.

ities provided.

Equity in Teacher Placement

The placement of teachers through bureaus and other agencies is to be put upon an equitable basis. A commission consisting of J. B. Edmonson, of the University of Michigan, J. W. Withers of the University of New York, and Frank N. Freeman of the University of Chicago, have, in furtherance of the movement, placed themselves in touch with the National Association of Teachers' Agencies.

tion of Teachers' Agencies. The commission conceives its function to be: First, to receive complaints concerning alleged unfair treatment on the part of a teachers' agency from teachers, supervisors, principals, superintendents or other school officers, or complaints from teachers' agencies concerning alleged violation of contracts by teachers; second, to investigate such complaints and to ascertain to investigate such complaints and to ascertain the facts by obtaining statements from parties to the controversy or from other first hand observers; third, if possible to formulate an opinion on the equity of the case in the light of professional ethics; and fourth, to report the findings to the society with a view to their publication.

Partial List of Hockaday

Users

The Shoreland Chicago, Ill.

Hotel Peabody

Memphis, Tenn.

Palmer House Chicago, Ill.

Commonwealth Hotel

Boston, Mass.

Edgewater Beach Hotel

Chicago, Ill.

Hotel Lucerne
New York, N. Y.

Windemere Hotel

Chicago, Ill.
Hotel Antlers

Milwaukee, Wis.

Franklin Hotel

Des Moines, Iowa

Graemere Hotel Chicago, Ill.

Northland Hotel

Bellevue Hotel San Francisco, Calif.

Galvez Hotel

Galveston, Texas

Maryland Apartment: Co. Baltimore, Md.

Wisconsin Hotel
Milwaukee, Wis.

Book-Cadillac Hotel

Detroit, Michigan

Hotel Duluth

Duluth, Minn.

Mayo Hotel
Tulsa, Okla.

Hotel Retlaw
Fond du Lac. Wis.

Ketchum Hotel Tulsa, Okla.

Surf Hotel

Chicago, Ill.

Hotel Ardmore
Ardmore, Okla.

Park Hotel

Madison, Wis.

Willard Hotel
New York, N. Y.

Tulsa Hotel
Tulsa, Okla.

Hotel Astor
Milwaukee, Wis.

Hotel Lorraine Madison, Wis.

Helmer Dickey Apartments

Chicago, Ill.

Emerson Hotel
Baltimore, Md

Datimore, m

Brazos Hotel

Houston, Texas



ADVERTISEMENT NUMBER FIVE OF A SERIES



IN THE APARTMENT AND HOTEL WORLD

HOCKADAY FOR THE LAST 17 YEARS HAS BEEN SPECIFIED AND USED BY THE

> ARCHITECT CONTRACTOR AND OWNER

HOCKADAY, Inc.
1823 CARROLL AVENUE
CHICAGO

The Hockaday Co. of San Francisco

206 Ninth St., San Francisco, Cal.

D. E. Fryer & Co., Seattle, Tacoma, Spokane and Portland



WRITE FOR YOUR COPY OF "PAINT MILEAGE"

The St. Louis Lunchroom System

Mr. E. M. Brown, supply commissioner of the board of education of St. Louis, Mo., has re-cently submitted a report on the school lunch-

Mr. E. M. Brown, supply commissioner of the board of education of St. Louis, Mo., has recently submitted a report on the school lunchroom system, showing the lunchroom statistics and giving a statement of the expenditures handled by the supply department.

The board of education took over the operation of the school lunchrooms in 1903, at that time consisting of one lunchroom in the Central high school* operated as a private undertaking, the sales from which approximated \$12,000 annually. From this beginning the lunchroom system grew until at the present time, thirteen lunchrooms are maintained in the high schools, teachers' colleges, open air schools, and schools for crippled children with receipts exceeding \$300,000 annually.

In the majority of the schools where lunchrooms are maintained, thirty minutes is allowed as a lunch period. The pupils are not allowed to leave the school building without a permit. They are, however, permitted to bring their lunch to school, and to use the lunchroom during the lunch periods. This creates a demand for the school cafeteria and establishes a stable basis on which to estimate very closely the number of pupils to be fed.

Lunchrooms in the grade schools have never been found to be self-supporting, due mainly to the fact that the children have an hour for lunch and may go home or leave the school grounds as they choose. In such instances, the corner grocery store, the candy store, or the peanut vender has more attraction than good wholesome food and the bottle of pop is the recipient of the child's nickel more often than the refreshing bottle of whole milk.

Unless a school lunchroom can be made self-supporting, the board of education will not sponsor it, as the rules plainly state that lunchrooms may be maintained by the board in such schools as shall from time to time be designated, on the condition that the board shall not be put to expense for them, except for the initial equipment of fixtures and furnishings, and that all other expenses shall be paid out of the proceed

expenses shall be paid out of the proceeds of the sale of lunches.

It is the board's purpose to give the school child the type of food best suited to meet the needs of growing boys and girls. In order to do this, pie, candy, soda water, and the like are eliminated and such foods as soup, vegetables, meats, milk, cocoa, salads and wholesome desaerts are provided. No attempt is made to establish any universal menus throughout the system, nor are menus repeated at regular intervals. tervals.

tervals.

The location of the school in relation to types and nationalities of pupils residing in its district have a peculiar psychological effect in connection with the kind of menu served. As an illustration of this point, it may be found that in a certain lunchroom fifty per cent more salads are sold than in any other school of similar size.

are sold than in any other school of similar size. In another lunchroom fifty per cent more bowls of soup are served. The aspect of the food and the manner in which it is displayed has a great deal to do with the amount of its sale.

One of the objects of school lunchroom work is to train the pupils to eat the proper foods. This object has been attained by presenting attractive menus and by the use of what is called "leaders." Such items as chicken salad, pineapple salad, creamed chicken on toast, etc., are served under this item.

The Beaumont high school lunchroom was

The Beaumont high school lunchroom was opened on February first of the present year, and was completely equipped at a cost of \$37,000 with every form of labor-saving machinery and with a capacity to take care of 1,500 pupils at one sitting

To operate the lunchroom there is required a To operate the lunchroom there is required a manager, one head cook, thirteen assistant cooks, four helpers, three porters, and 46 student helpers; a total of 68 employees, with a salary list of \$85 per day. All of these are paid salaries on an eight-hour basis, five days in the week, with the exception of the student help who receive their remuneration in lunch checks. The entire lunchroom force is employed on a basis of two hundred days per year, at a per diem rate.

diem rate.

The average sales per pupil at the Beaumont lunchroom, based on the number of pupils in the school, is twelve cents. Quite naturally the sale of checks on Monday and Tuesday exceed that of the rest of the week due to the fact that the average child receives an allowance and invests his allowance in checks to avoid spending it otherwise. otherwise.

*Central lunchroom closed January 22, 1926.

The cash receipts are deposited daily by the manager in a nearby bank and once each week, on Friday, are checked out and deposited in the school lunchroom fund in the office of the secre-

on Friday, are checked out and deposited in the school lunchroom fund in the office of the secretary and treasurer. Both the active managers and the banks are under bond to insure the safety of the funds.

In discussing the question as to the method pursued in gauging the profit or loss made on various portions, it is found that the lunchroom loses on a number of portions sold at five cents each, but on others there is a profit. For instance, there is used in the school lunchrooms approximately seventy thousand dollars' worth of ice cream annually, which represents 2,240,000 portions. Each quart is cut into eight pieces and sold at five cents. Experience has shown the number of each kind of portions to be taken by the pupils so that there is not much danger of losing on the serving of the lunch as a whole.

A sample menu taken from one of the large high schools may be of interest. It shows the menu, the number of portions served, and the net cost of each portion. In figuring the cost, it is found that 25 per cent of the receipts are expended for salaries, 8 per cent for replacements and upkeep, and 67 per cent for foods. The latter is slightly variable—sometimes showing a profit of two or three per cent but never a net loss.

SAMPLE MENU

High School Lunch Room

SAMPLE MENU
High School Lunch Room
No. of Estimated

			Cost pe
Article	3	served	Portion
SOUP		100	00.77
Split Pea Soup with Crackers		138	.0375
MEAT		40.4	0.45
Hamburger Roast with Potatoes.		434	.045
FISH		000	405
Baked Halibut with Creamed Potate	oes	326	.105
VEGETABLES		40#	0.5
Egg Croquettes			.05
Spaghetti Italienne		00	.06
SALADS		000	
Salmon			.055
Fruit		219	.0575
Deviled Egg			.05
Banana and Nut			.09
Cheese			.075
Head Lettuce		46	.055
SANDWICHES			
Minced Ham		460	.045
Sardine		102	.045
Toasted Cheese		210	.045
DESSERTS			
Snow Pudding		200	.0325
Apricot Short Cake		160	.0575
Fresh Fruit			.0775
Orange Custard			.035
Ice Cream with Chocolate Sauce		2080	.045
BEVERAGES			
Bottle Milk and Sweet Roll		355	.045
Cocoa and Sweet Roll			.06
Coffee and Sweet Roll			.04
Fresh Baked Rolls and Butter			.04
A study of the statistics cov			
A STUDY OF THE STREETICS COV	er	HIM UN	e iunci

room system shows that the increase in the sale of lunches in the eight high schools and teachof lunches in the eight high schools and teachers' college during the past school year amounted to \$37,845. The items of expenditure for food, expense, equipment, and salaries are divided as follows: Groceries, 11 per cent; meats and fish, 14 per cent; bread, rolls, and cake, 8 per cent; milk, ice cream, butter, 27 per cent; fruit and vegetables, 8 per cent; eggs and cheese, 1 per cent; equipment and repairs, 2 per cent; ice, telephone, soap powder, etc., 3 per cent, and payroll, 26 per cent, making a total of 100 per cent. The receipts from lunchrooms amounted to \$334,105 and the expenditures for lunchroom service to \$323,924, with a gain for the year of

IMPORTANT SCHOOL BOND SALES OF THE	E PAST
(October to November)	
FLORIDA—Palm Beach Co., Spec. Tax Sch.	
Dist. No. 1, J. C. Youngblood, Supt., West	800,000
Palm Beach, Fla	800,000
Supr	300,000
MICHIGAN-Springwells Tp., Unit. Sch. Dist.	820,000
NEW JERSEY-Cranword Orange Ave Sch	298,000
NEW JERSEY-Perth Amboy, School, S. E.	
Shull, Supt.	298,000
Shull, Supt. NEW YORK—Binghamton, Benjamin Frank- lin School Building and Equipment, Dr.	
Daniel J Kelly Sunt	500,000
Daniel J. Kelly, Supt NEW YORK—Huntington, Union Free Sch.	500,000
Dist No 3 Robert K Toos Sunt	475,000
NEW YORK—New York, School Construction, Dr. Wm. O'Shea, Supt NEW YORK—Pelham, Union Free Sch. Dist.	210,000
Dr. Wm. O'Shea, Supt	2,500,000
NEW YORK-Pelham, Union Free Sch. Dist.	2,000,000
NO. 1	260,000
NEW YORK-Syracuse, School, P. M. Hughes,	200,000
Supt. NORTH CAROLINA—Rocky Mount, Graded	520,000
NORTH CAROLINA-Rocky Mount, Graded	0=01000
Sch. Dist., R. M. Wilson, Supt	350,000
OHIO-Columbus, Sch. Dist., J. G. Collicott.	
Supt. OHIO-Dayton, Sch. Dist., Paul C. Stetson,	575,000
OHIO-Dayton, Sch. Dist., Paul C. Stetson.	
Supt. PENNSYLVANIA—Philadelphia, Sch. Dist.,	1.500,000
PENNSYLVANIA-Philadelphia, Sch. Dist.,	-,,
Edwin C. Broome, Supt	2,250,000
PENNSYLVANIA—Philadelphia Sch Dist	
Edwin C. Broome, Supt TENNESSEE—Chattanooga, Public School,	1,750,000
TENNESSEE-Chattanooga, Public School,	
J. S. Zeigler, Supt	420,000
TEXAS-Houston, Ind. Sch. Dist., Dr. E. E.	
Oberholtzer, Supt	1,463,000



DR. WILLIAM F. RUSSELL. Teachers College, Columbia University, New York, N. Y.

Teachers College, Columbia University,
New York, N. Y.

Dr. James E. Russell, who resigns as dean of Teachers
College, Columbia University, on June 30th next, will be
succeeded in that office by his son, Dr. William F. Russell.
Dr. Russell will become Barnard professor of education,
with the added title of dean emeritus of Teachers College.
Dr. William F. Russell, the new dean, was born at Delhi,
N. Y., in 1890. He was graduated from Cornell University
with the degree of A. B. in 1910, and after four years of
study at Columbia University, received the degree of doctor
of philosophy in 1914. Dr. Russell began his teaching
career in the College high school at Greeley, Colo., and
was for two years assistant professor in the Colorado
Teachers' College. From 1913 to 1915 he carried on advanced studies and taught at Teachers College. For two
years he was professor of education at Peabody College
at Nashville, and from there he went to the University of
Iowa as dean of the College of Education. In 1923 he
returned to Columbia as professor of education and associate director of the international institute.

Dr. Russell is the author of numerous books and studies
on educational subjects and is educational adviser of the
American Library Association. He is active in the interests of the Association for the Advancement of Science, the
Society of College Teachers of Education, and the Educational Research Association.

\$9,745. The total expenditure for supplies and salaries for all lunchrooms amounted to \$1,115,-

salaries for all lunchrooms amounted to \$1,115,007. Of the ten schools enjoying the benefits of the lunchroom service, eight showed decided gains in lunchroom funds, while two had losses. The lunchrooms are planned, installed and operated under the direction of Mr. C. L. Barr, assistant supply commissioner and director of school lunchrooms for the board of education.

CHICAGO TO BUILD THREE-STORY GRADE SCHOOLS

—The building and grounds committee of the Chicago board of education has adopted the three-story type for grade schools as designed by the school architect, John C. Christensen, as being more compact and more economical to erect. The new policy of the building department eliminates from consideration the eliminates from consideration the elementary school of the two-story type, favored by Supt. William McAndrew.

The three-story type of grade school will be U-shaped, will contain 33 rooms, and will be capable of enlargement at either end or in the center. The cost of the structure will be \$15,000, as compared with \$20,000 per room in the case of the two-story building.

New York Commission on Ventilation to Undertake Further Research Work It is announced that the New York State

Commission on Ventilation is to undertake further experimental work in connection with the subject of ventilation. The committee will have the same personnel, with Mr. James J. Duffield, of New York City, as secretary. The work for the next two years is to be concentrated upon rural schools and is made possible by receipt of additional funds from the Milbank estate, which provided the funds for the original work.

additional funds from the Milbank estate, which provided the funds for the original work.

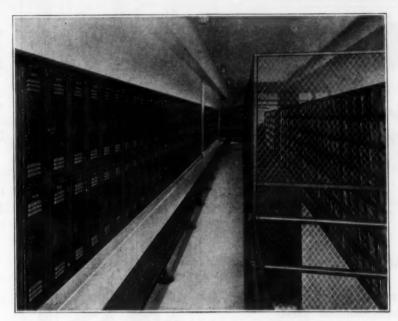
It is the purpose of the Commission to spend about \$3,000 in Cattaraugus County and \$2,000 in Syracuse this year, and \$2,000 in Cattaraugus and \$3,000 in Syracuse next year. The scene of operations will later be transferred to the metropolitan schools, probably in New York

In resuming its experiments, the Commission will devote its efforts not so much to the quality of air and its characteristics as to the effects on the individual of the various kinds of ventilation. The results of the study will be followed with the greatest interest by those interested in the subject of school ventilation.



DURABILT STEEL LOCKERS

Built by Locker Specialists



Gymnasium Locker Room, Marquette High School.

Among the prominent schools in Milwaukee, that are Durabilt equipped, two demand special mention.

The Roosevelt and Marquette High Schools, either of which compare favorably with any in the country, are referred to as the first in Milwaukee to be designed for installing Steel Lockers in the walls.

In the Marquette High Durabilt Single Tier Lockers with our standard louvre ventilation are installed in the corridors. Double Tier Lockers are built in the walls of the gymnasium alcoves providing handy space for hanging the clothing of students who use the gym. Then in addition there are a quantity of small single tier lockers which form a part of the basket rack enclosure while the tops serve as a handy counter, always available for use.

The recessed corridor lockers in the Roosevelt School are a special ventilated type connected by air ducts from the tops of the lockers directly to the main ventilating system of the building thereby giving the maximum amount of air circulation.

Every school building has its own special locker problems and the Durabilt Organization of Locker Specialists stands ready to assist in their solution no matter how difficult or intricate they seem to be.

We have prepared a comprehensive hand-book especially for those interested in school locker equipment. If you have not received your copy just phone our nearest Sales Office or write direct to Aurora and it will be sent immediately.



A Corridor in Roosevelt Junior High School, Milwaukee, Wis.



Main Floor Corridor, Marquette High School,

"No better built than Durabilt!"

DURABILT STEEL LOCKER CO.

400 ARNOLD AVE.,

Sales Offices In All Principal Cities

AURORA,ILL.





rotection, against Traffic Dangers

An Anchor Fence is an unfailing guardian for children. Around the schoolyard or playground, it keeps them from heedlessly running into the path of passing cars. It affords effective protection, too, against snap-

ping dogs — helps teachers to enforce discipline.

An Anchor Fence insures years of service at low annual maintenance cost. Copper-bearing steel wire, Galvanized After Weaving; drive-anchorage; and thorough galvanizing throughout by the hot-dip spelter method are some of the features that contribute to its enduring construction.

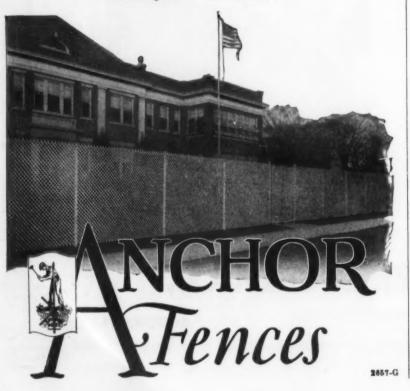
Let us send you the complete story of Anchor Safety and Service. Just phone, write or wire our nearest office or sales agent for a copy of catalog No. 60.

ANCHOR POST IRON WORKS 9 East 38th Street, New York, N. Y.

Albany, N. Y. Boston, Mass. Chicago, Ill. Cincinnati, Ohio Cleveland, Ohio

Detroit, Mich. Harrisburg, Pa. Hartford, Conn. Los Angeles, Cal. Mineola, L. I., N. Y. Philadelphia, Pa. Pittsburgh, Pa. San Francisco, Cal. St. Louis, Mo.

Sales Agents in Other Cities





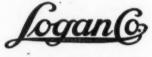


THINK!

What's the value of their education when charred little bodies are lifted from the ruins?

Determine now to set aside in next year's budget the necessary money for a Dow Firescape.

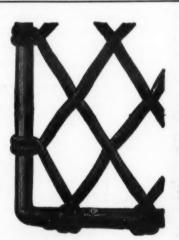
No life has ever been lost in a Dow-equipped school. Let us tell you about Dow 100% protection. Write today.



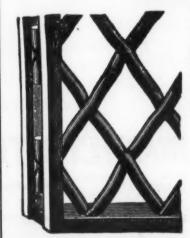
Formerly The Dow Co. 300 N. Buchanan Street LOUISVILLE, KY.

BADGER WIRE WINDOW GUARDS

Installed in your school means—permanent protection against breakage of school windows and because of their rigid construction—real economy.



BUY WIRE WINDOW GUARDS INSTEAD OF WINDOW GLASS



BADGER WIRE WINDOW GUARDS are made to order in any size or shape to fit the window. The illustrations show the BADGER WIRE WINDOW GUARDS with Round and Channel frames. They are easily installed.

Order through your School Supply Jobber.

BADGER WIRE AND IRON WORKS

Cleveland and 25th Aves. MILWAUKEE, WIS.

The NORTON Closer With Hold Open Arms Is Best Suited For Schoolhouse Work

=Every Schoolroom Should Have One**=**

The doors are closed with a uniform speed, which gives the pupils a chance to go through a door without getting caught or injured.

2nd. Having two speeds, the speed at the latch can be set for absolute quiet—no latch necessary.

3rd. The Hold-Open Device connected with the arm of the Door Closer is automatic, a child can operate it—just a push or pull on the door is all there is to do it. Does away with door stop, hook or strap to hold the door open.

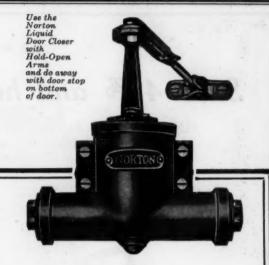
SERVICE:-We have expert servicemen on call, free of charge.

PRICE:—The price is right. Send for a representative.

THE NORTON DOOR CLOSER CO.

2900-2918 N. Western Avenue.

Chicago, Illinois.



A Partial List of Schools NORTON Equipped

Skinner Junior High School, Denver, Colo.

North East High School, Minneapolis, Minn.

Chicago Public Schools

Toronto Public Schools

East Side High School, Cincinnati, Ohio.

Cass Technical High School, Detroit, Mich.

Technical High School, Omaha, Nebr.



ASK TO OBEY LAWS ON FLAG

The United States Bureau of Education has The United States Bureau of Education has issued a statement to boards of education, school officials, and teachers throughout the country asking them to enforce the state laws which require the display of the U. S. flag on school buildings. The text of the Bureau's statement is as follows:

The sight of the United States flag floating in the breeze makes a patriotic appeal to every American. Such an appeal is more impressive American. Such an appeal is more impressive when the flag is sufficiently large, is in good repair, and is properly mounted on a staff. It is particularly appropriate this year, which marks the sesquicentennial anniversary of the birth of the nation, for "Old Glory" to float above every public school in the land.

The statutes of more than three-fourths of the States require the display of the United States flag on or near every public school building. Thousands of schools throughout the land take great pride in carefully performing this duty; some schools are somewhat careless in this respect. A deputy superintendent of Nevada says in his annual report that he often finds, as he visits the schools, the flag rope broken, or the flag pole inaccessible, because of its location on top of the building, or the school without a flag. It is not uncommon to find in other States, especially in the rural districts, conditions similar to The statutes of more than three-fourths of the cially in the rural districts, conditions similar to those described. School officers, teachers, and pupils should know the rules regarding the dis-play of the flag and should cooperate in their enforcement.

LAW AND LEGISLATION

—The New York Court of Appeals denied the appeal of the administrators of the estate of Ray L. Levitsch, a teacher, to recover salary accrued between time of dismissal and death. The state commission denied the claim because it was not filed within legal time.

—The attorney general of Washington has rendered an opinion to the effect that a high school district may not legally operate a bus in another high school district for the purpose of transporting students from the latter district to the schoolhouse of the former. The opinion was given to determine the right of the Raymond district to run its bus into the Willapa-Menlo

The New York City board of education barred the lectures of the American Civil Liberty Union from the schools on the charge that some of the utterances were "un-American," and that the lectures were not subject to censorship. Thereupon, the Union filed a complaint against the board of education before the State Commissioner of Education. At the bearing the two interests were represented by hearing the two interests were represented by

able counsel.

—The Chelsea, Mass., school committee passed a resolution whereby the Chelsea applicants seeking positions as teachers shall be given preference over outside applicants of equal qualifications.

qualifications.

—School district No. 4, Addison Township, Mich., filed a suit for an accounting against Oliver S. Hibler, until last July school treasurer of the district. He was succeeded by R. N. Drum. Other officers of the school district now are: S. D. Baker, president; Elmer D. Frick, secretary, and Robert Cascadden and Claire Ousnamer, trustees. The plaintiffs allege that since Hibbler went out of office he has retained all the books and records of the district and the money that was in the treasury. The court is asked to compel Hibbler to account for all the money due the district and to turn over any records he may have belonging to the district.

Amend Law to Increase Borrowing Power of

Amend Law to Increase Borrowing Power of the Governor

One of the evils with which school boards and One of the evils with which school boards and teachers of Georgia have had to contend with since the organization of the state school system in 1877 has been the delay in the payment of the state school appropriation. The first state appropriation was made in February, 1878 and the schools were run through the year, with teachers collecting what tuition they could from the people and waiting until December

when the state taxes were collected for their pay from the state fund. This resulted in de-laying the payment of the state school fund one year. Some improvement was made in 1915 when the governor was given authority to sell state warrants for the payment of the school appropriation. The plan involves much red tape and has not proven satisfactory either to the state or the local authorities.

and has not proven satisfactory either to the state or the local authorities.

Georgia appropriates \$5,000,000 as a public school fund, but the counties are forced to borrow against the fund in order to start their schools in January and run through the year, paying on an average for the past four years over \$100,000 a year in interest. The interest money is deducted from the state school appropriation in the discounts which the counties take on their school warrants. Under this plan, the school appropriation is reduced each year by over \$100,000 which lessens the ability of the counties to pay adequate salaries, and in the end, teachers and children are the losers.

At a session of the general assembly in April of this year, a bill was passed, which proposes a constitutional amendment, increasing the borrowing power of the governor from \$500,000 to \$3,500,000 for the prompt payment of teachers' salaries. If the amendment is ratified by the voters of the state, it will mean a saving of \$100,000 now paid in interest, and will insure the prompt payment of the state school appropriation.

MR. SNYDER REMOVES OFFICE

Mr. C. B. J. Snyder, of New York City, who

mr. C. B. J. Snyder, of New York City, who specializes in educational buildings and equipment, has moved his office from 505 Fifth Avenue to 183 Madison Avenue.

Mr. Snyder who is a registered architect and a member of the American Institute or Architects, was superintendent of school buildings of New York City from 1891 to 1922. He applied his wide knowledge and technical skill in every way to make the buildings suitable for educational work, and many of the innovations he introduced were adopted by school architects in other parts of the country. He was the first to adopt the overlapped stairway plan in school buildings, and was responsible for other devices which have made schools safe from fire and panic.

"CLEANLINESS KNOWS NO SEASON"

Save 40% and have cleaner, more healthful schools

"INVINCIBLE" Portable Vacuum Cleaners meet every school requirement. They have tremendous cleaning power, are easily handled, and are sturdily constructed to give a life time of satisfactory service.

"INVINCIBLE" Portable Vacuum Cleaners require no intricate piping and no long, heavy lengths of hose. Their maintenance and operating cost is extremely low.



"INVINCIBLE" Portable Vacuum Cleaners clean floors of any kind, blackboards, chalk troughs, erasers, walls, ceilings, window ledges and in fact every nook and corner of the entire building.

> Write us today for complete information and report on cleaning schools.



Invincible Vacuum Cleaner Mfg. Co. DOVER. OHIO. U.S. A.

A. C. Monahan, formerly with U. S. Bureau of

A. C. Monahan, formerly with U. S. Bureau of Education

Court Decision Favors Pupil Patrols

Much prestige is given by a court decision to the status of pupil patrols at street crossings adjacent to school building during rush hours in the District of Columbia, under the plan already reported in these columns. A citizen driving an automobile failed to obey a stop signal of a school boy patrol. He was summoned to the police court by the Judge and given a reprimand. The pupil patrol had halted traffic to allow children to cross. Other cars stopped. The one driven by this man drove between two groups of children, each under the escort of an The one driven by this man drove between two groups of children, each under the escort of an assistant pupil patrol. The patrol, a 15-year-old eighth grade pupil, took the number of the automobile tag according to instructions. His report to the principal was handed to the police department, resulting in the summons and fine. This recognition by the District Court has given pupil patrols in the public eye, much of the status and authority of the regular police traffic office.

The pupil patrol system since put in opera-tion in the District has on the whole proved tion in the District has on the whole proved satisfactory. Approximately 120 crossings at 61 schools, are now patroled by 300 boys, and a few girls, during the regular rush hours when children are on the streets. City police are on duty at all of the crossings when automobile travel is heaviest. The school boys on duty wear a white leather belt and shoulder strap similar to the Sam Brown Army Belt. Automobile drivers on the whole are in thorough sympathy with the movement and obey the signals of the boys.

mobile drivers on the whole are in thorough sympathy with the movement and obey the signals of the boys.

U. S. Bureau of Education Bulletins

A new printed list of bulletins and other publications of the United States Bureau of Education will be distributed in the near future. The list may be obtained from the U. S. Bureau.

School Enrollment

Some idea of the enormous volume of the business of public education can be gathered from

recent figures of the United States Bureau of Education about to be distributed. They are for the school year 1923-24 but are the latest available which have any degree of accuracy. The figures concern state schools only.

In that year 2,881 city school systems in Continental United States gave instruction to 12,693,495 pupils in definite organized work, including day schools pight schools summer schools.

ing day schools, night schools, summer schools and continuation schools. This was done at an expenditure of \$1,118,926,543. This amount does not include payments made during the year toward liquidation of school debts.

toward liquidation of school debts.

In 773 cities of 10,000 population or over included above, the public day schools were in operation for an average of 185 days during the school year. They were attended by 8,742,963 pupils, of whom 81.4% were in average daily attendance. An average of 36.3 pupils were enrolled per teacher employed. This enrollment in these 773 cities is approximately twenty per cent of the total population of the cities. In other words approximately one in every five living in cities of 10,000 population or more in the United States is attending a public school. United States is attending a public school.

Schoolhouse Fires

The season for schoolhouse fires is now at its annual height, particularly for schoolhouses in the smaller cities, towns and rural districts. Most of these are due, according to information available, from defective chimney flues. A recent study in Alabama may be quoted as an example.

During the past year in Alabama an average of one schoolhouse a week was burned. More

of one schoolhouse a week was burned. than one-half of these were due to defective

National High School Principals' Association

The National Association of High School Principals will hold its annual meeting at St. Louis on February 24, 25 and 26, 1927. Head-quarters will be at the Statler Hotel.

This association has been meeting in the past at the same time and place as the Department of Superintendence. A separate meeting is to be

of Superintendence. A separate meeting is to be held this year because of the crowded programs at the Department sessions. The time and place for this separate meeting was selected so that those caring to do so may attend the high school meetings on their way to the Department meeting which is in Dallas the following week.

The usual attendance at the high school meeting is in the neighborhood of five hundred persons, mostly principals of the larger high

Newspaper Vote in District

Again the citizens of the District of Columbia voteless in school matters as well as all other local matters, have expressed themselves on a vital question of school administration through

The question of concerned the opening hour for schools. Because of traffic congestion with schools, government offices, and department and schools, government offices, and department and other stores all opening at the same hour, it was proposed that schools open a half hour earlier or a half hour later than the government offices and stores to relieve crowded conditions on street cars, buses and streets.

The board of education expressed a desire for information of the opinions of parents and others. One of the City daily papers immediately took a poll. It published a statement of the question together with a blank form to be filled out and returned to the newspaper office.

The returns were heavy. Together with them were a large number of letters by parents containing valuable suggestions for the solution of this traffic problem. These were turned over to Supt. Frank Ballou and will be studied by him and the members of the board.

From the ballots it is found that 87 per cent

From the ballots it is found that 87 per cent of those voting are in favor of a change in the opening hour, 75 per cent of the total would move it forward to 9:30, while approximately twelve per cent would make it 8:30.

Many of those objecting to the change in the many of opening state that the solution is in more rigid traffic control by additional police officers in the neighborhood of schools, and in routing the heavy through traffic to streets not passing schools whenever possible.

Five Year Building Program in the District of Columbia

Dr. Frank W. Ballou, Superintendent of Schools in the District of Columbia, has asked the Federal Budget Committee to approve a Congressional appropriation of \$5,648,000 for the District's Five-Year Building Program, the money to be spent during the coming year.

(Concluded on Page 102)



GEORGE L. HOSSFIELD World's Champion Typist

EVERY World's Typewriting Championship for 21 consecutive years has been won on the Underwood Typewriter.



132 words a minute for one hour! 42,073 strokes or more than 11 strokes per second! A phenomenal performance of speed and accuracy by the World's Champion Typist in establishing a new World's record on the Underwood at the 21st Annual International Typewriting Contest, Town Hall, New York.

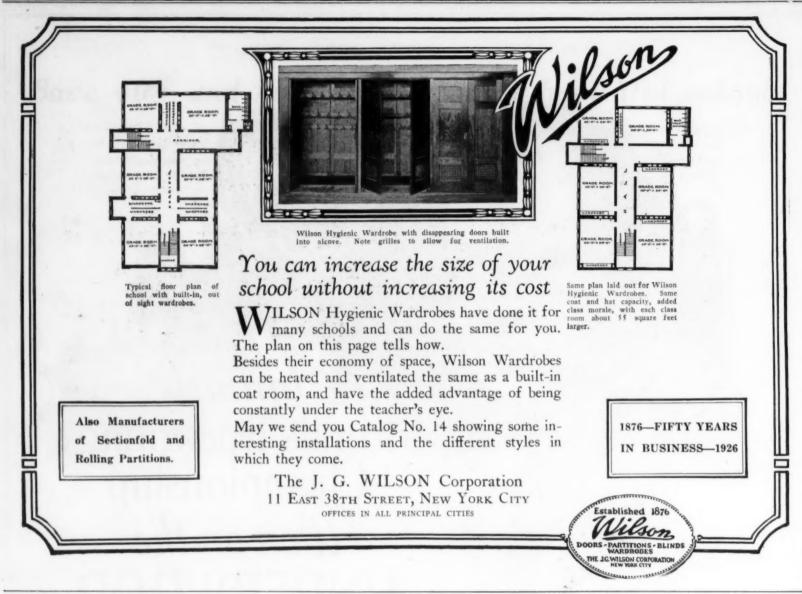
Not only was the World's Typewriting Championship won on the Underwood, but the World's Amateur Typewriting Championship and the World's School Typewriting Championship as well.

First to win

Gov. Alfred E. Smith Trophy

Miss Hilda Dehl of Casey High School, Illinois, won the World's School Championship in competition against 32 other State Champions drawn from coast to coast. Her name is the first to be engraved on the new Governor Alfred E. Smith American School Novice Typewriting Championship Trophy.





(Concluded from Page 100)

The five-year building program authorized by Congress two years ago would cost a total of approximately \$20,185,000, or \$4,037,000 per year for five years

An appropriation for the first year equivalent An appropriation for the first year equivalent to this amount was made. The appropriation for the present year, however, was \$1,611,000 short of the annual requirement. The appropriation requested for the coming year includes this amount as a deficit.

In spite of the fact that several buildings have

been built and opened during the past year congestion in the District schools is on the increase. The five-year building program was based upon the congestion at the time and was made with an allowance of an increased school enrollment corresponding with increase each year during the past twelve years. The increase because of the rapid growth of the city, is greater than estimated. In 1924 there was a shortage of 488 classrooms, and during the school years 1925-26, there was a shortage of 461 classrooms. The present average annual increase in enrollment in elementary schools is approximately 675

pupils per year.

School Building Costs in the District of
Columbia

The cost of school building in the District of
Columbia at the present time may be estimated
from a contract just awarded for an addition Columbia at the present time may be estimated from a contract just awarded for an addition to one of the elementary schools. This addition is a one-story building with eight classrooms and with the necessary corridors, and including a combination assembly hall and gymnasium. The building is class "A" construction, the exterior being of brick, and the award is for \$188.235 for \$188,835

Normal School Survey by the U.S. Bureau

of Education
The complete report of the survey by the Bureau of Education of the two teacher-training schools of the District of Columbia has been submitted to the board of education. It is a mimeographed document of approximately 40

The principal recommendations of the survey of interest to school administrators in other cities with similiar problems concerning their teacher-training schools, are given as follows:

Only graduates of the District of Columbia high schools who rank in the upper half of their class for the last two years of high school should be eligible for admission.

Only high school students who can pass general physical examination should be strict

3. Personal characteristic score card should 3. Personal characteristic score card should be prepared and used to rate the members of the high school graduating class. This score card should require the principal, and at least two teachers, to express judgment in regard to personal qualities and activities contributing largely to success or failure in teaching. Admission to normal schools should be based in part upon the rating made upon this personal characteristic score. acteristic score.

The course of the normal schools should be extended to three years, the increase in time being used to strengthen those portions of the

being used to strengthen those portions of the curriculum which provide the prospective teacher with educational and cultural background.

5. That for the present the District of Columbia normal schools confine their work to the preparation of teachers in kindergarten and elementary school grades through grade six.

6. That a graded system of supervised observation and practice teaching be made a part of the teacher training in both normal schools.

7. That at least one supervisor of practice teaching with as good general training as the

teaching with as good general training as the trained members of the normal faculty be provided for each of the normal schools.

8. That the libraries of both normal schools be reconditioned so that they will contain up-to-date books and periodicals in sufficient numbers and variety to constitute standard libraries for

and variety to constitute standard libraries for normal schools of the size and character of the District of Columbia.

The committee believes that the deleterious effect of taking a large proportion of grade teachers from the District of Columbia normal schools may be greatly mitigated by securing at least 50 per cent of the principals and other supervisors of the District and of normal school faculties outside the District school system.

SCHOOL LIBRARY SUPERVISION IN OHIO

The county library is the only solution of the problem of better library service in rural and

small village schools, in the opinion of Miss Estelle Slaven of the Ohio State Library. In an address on the subject of "State Supervision of School Libraries in Ohio," before the American Library Association, Miss Slaven pointed out that although there is no supervisory office in Ohio, a school librarian on the staff of the state library works in close cooperation with the department of education. The stan of the state library works in close coopera-tion with the department of education. The work is largely advisory and is given to the library work in rural schools. Of the rural schools, 145 high schools and 328 elementary schools receive library service from local and county libraries, or both. About 900 high schools and 7,600 elementary schools depend county libraries, or both. About 900 high schools and 7,600 elementary schools depend upon their own resources.

upon their own resources.

In the five-teacher school, a large number of courses is offered so that the teacher cannot be expected to prepare herself for an additional burden of library supervision. A special librarian is also out of the question.

It appears that the county library is the only solution to the problem of library supervision. A county librarian, with an automobile at her service, may easily supervise school stations. Growth in interest might lead to the appointment of a part-time assistant and the problem of adequate book supply would be gradually solved. solved.

Ohio has nine county libraries, some of which are handicapped by old laws under which they were organized. Cleveland has entered into an agreement to serve Cuyahoga County and one county will vote on the question this fall. In Ohio the librarian visits the schools with the county superintendent, pointing out weaknesses and possibilities for development, and teaching simple methods of organization and administra

—"Where peace and sweetness should dwell, we have turmoil and contention. The present school board, made up of ordinarily amiable citizens, seems paradoxically to be our chief source of friction," says the Terre Haute, Ind., Tribune in discussing a school board deadlock. "The entire school board, en masse and in toto, has demonstrated that the board is composed of first rate fighters. It may be that out of all this rate fighters. It may be that out of all this travail the school interests will advance and develop."



Melodies, bells and mighty choirs make beautiful your Christmas program

THE tree glitters with candles, and drips brightly with packaged gifts. Here and there, in little hushed groups, are the children . . . touching each other's crepe paper dresses with trembling fingers. Sleigh-bells on their wrists, arms full of toys. The Christmas program is ready for its color, pageantry and - music. For now, though no pipe-organ is in that little crowded room, voices and excitement fall into a silence before melody undeniably from the pipes of a mighty organ! "Christmas Fantasy, pipe-organ number by Mark Andrews," read the slender, hand-tinted programs.

Then after a drama by the children perhaps — shepherds with tinsel crooks, questioning "Where — Where?" . . . Suddenly the room is

flooded with the Trinity Choir's singing of Star of the East. Music of exaltation! Then a trombone plays out softly, First Nowell. You hear Adeste Fideles with the chiming of tiny bells. And behind the chanting of the children's Silent Night — is the profound accompaniment by the Victor Salon Orchestra.

Victor Orthophonic Records on the Orthophonic Victrola add emotional depth to your Christmas program. A spiritual richness. Give yourself the pleasure of hearing these records in any store selling Victor products. Then plan your Christmas program around them. You can make the program this December easier—and more beautiful—than ever before. We will gladly send more information.

Christmas Fantasy (Grand Organ)

MARK ANDREWS 19816

Star of the East Trinity Choir 19833
Star of Bethlehem RICHARD CROOKS 55287

Adeste Fideles-First Nowell-Nazareth

Jingle Bells SHANNON QUARTET 19791
Silent Night

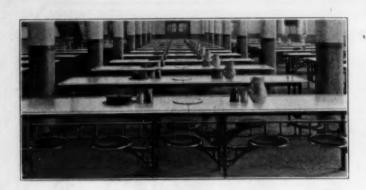
VICTOR SALON ORCHESTRA 19820

The Educational Department

VICTOR TALKING MACHINE CO.



CAMDEN, NEW JERSEY, U. S. A.



Our Experts Would Like to Solve Your Cafeteria Problem

-It will cost you nothing



Sani Onyx Raised Rim Tops

Scientifically constructed. All blows and first glance off without chipping, checking or cracking the surface. Keeps spilled liquids and rolling glassware on the table.

on the table.

8ANI-ONYX Raised Rim Tops are beautiful, permanent, non-absorbent and impervious to acids. Nothing can stain them. They are easily and quickly cleaned with a damp cloth. White, black and black descrated designs.



Table Bases and Stools are of solid cast gray iron, finished in fused porcelain enamel. Furnished in white, black and colors to match your woodwork. Cannot rust, chip or crack. Easy to keep clean by your own help. Non-absorbent and will not stain. SANI-METAL bases never need refinishing—brooms and mops cannot nick them.

If you are installing a new cafeteria or adding to the one you already have, our engineers will give you their expert advice without charge.

Send us a rough drawing of the dimensions of the room, location of doors, windows, col-umns, etc. Also state the number of persons you wish to serve at one time. This free service includes complete blueprints of the installations and arrangement.

This equipment is especially suitable for schools. It will withstand hard usage for a lifetime. It cannot break, chip, mar or wear away. The porce-lain enamel tops and sturdy cast iron bases resist the hard usage of school children.

SEND YOUR PROBLEM

Send your problem now and we will include with our solution the catalog showing the complete SANI PRODUCTS line. Send now.



20 Sani Bldg., North Chicago, Ill.

Selling Organization for Marietta Manufacturing Co. and Chicago Hardware Foundry Co.

Sani Products Co., 20 Sani Bldg., North Chicago, Ill. Gentlemen:	
I am enclosing a rough diagram of my cafeteria problem f work out. I understand that this service is free. Please in the blueprints.	for your engineers nclude a catalog wi
Name	
Address	

City State.

DRINKING FOUNTAINS



The fountain illustrated was designed especially for use in schools.

Puro Drinking Fountains are made of solid bronze cast metal from heavily designed patterns. breakage possible. There is nothing to crack, chip or become unsightly.

Puro Sanitary Drinking Fountains are highly finished and heavily nickel plated. They are always clean and inviting do not require the continual care of enameled goods.

> "An Installation Once Made Will Last a Lifetime."

WRITE FOR COPY OF OUR CATALOG.

PURO SANITARY DRINKING FOUNTAIN COMPANY

Haydenville,

2. Ample waterflow, 125 gallons per minute

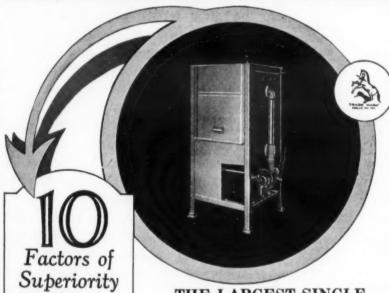
3. Large spray tubes 4 Easy acting doors, with rugged chain suspension

5. Heavy copper hood and tank 6. Indestructible scrap trays 7. Powerful, balanced, long-wearing pump

8. Simplified control 9 All interior parts removable without tools

10. Easy cleaning of interior

Massachusetts



THE LARGEST SINGLE Only Colt Autosan S-1 Combines Them RACK-TYPE DISHWASHER 1. Interlocking direct And the Only One That Provides

All of These Ten Features All of These Ten Features

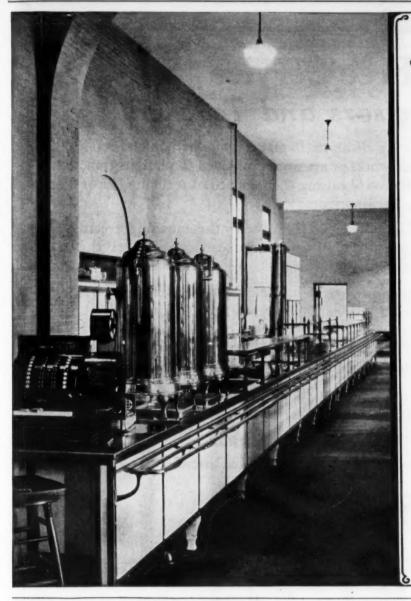
The remarkable new Model S-1 AUTOSAN is the only large single rack-type dishwasher in which you will find ALL THE TEN EFFICIENCY FEATURES so essential to quick, safe, economical dishwashing. A unique system of inter-locking sprays, large spray tubes, easy acting doors, heavy copper hood and tank, indestructible scrap tray and simplified control are but a few of the outstanding features which assure long life and dependable service.

Compact in size and surprisingly low-priced, Model S-1 COLT AUTOSAN fills a real need for efficient dishwashing in small hotels, restaurants and institutions. Ask your Kitchen Equipment Dealer about Model S-1 AUTOSAN or write us for interesting descriptive folder.

COLT'S PATENT FIRE ARMS MFG. CO. Hartford, Conn., U. S. A.



DISH AND SILVER WASHING MACHINE



'Van' Cafeteria Equipment— "That Enduring Quality"

FOR dependability, sturdiness and perpetual economy, you will hardly find the equal of Van Cafeteria Equipment. Users will tell you this -and more.

The first cost is the last cost with Van Equipment. That is why it pays to specify it in the beginning. If you are contemplating a new Cafeteria, start right and stay right with Van Equipment.

Can we help you with your plans. Consult us for full information on blanning and

Our Catalog will be sent promptly if you wish it. Ask for it without obligation.



NEW ORLEANS CLEVELAND

ATLANTA

CHICAGO LOUISVILLE



—The St. Louis, Mo., board of education refused to approve Supt. Maddox's appointment of L. W. Rader and D. H. Weir to principalships. Members of the board recalled activities on the part of Rader and Weir of which they dis-

-Supt. John J. Richeson of Youngstown, —Supt. John J. Richeson of Youngstown, Ohio, recently delivered a lecture on "The Pre-School Child" before the local mothers' club.

—Mr. J. E. Demorest has been elected super-intendent of the schools at Elmira Heights,

N. Y.
—Supt. James H. Harris of Pontiac, Michigan, has been appointed by Dr. Randall J. Condon, President of the Department of Superintendence of the National Education Association, as Chairman of the section of superintendents of cities between 10 000 and 100 000 in tendents of cities between 10,000 and 100,000 in population, for the meeting at Dallas, Texas,

next February.

—Mr. J. M. Daniel, of Conway, S. C., has been appointed as high school supervisor for the

state education department.

—Mr. E. E. Lewis, formerly of Flint, Mich., has joined the faculty of the University of Ohio as professor in the department of education.

Dr. Augustus O. Thomas of Augusta, Me., recently made a trip to Europe, where he visited the educational officials in the principal countries of the continent.

—Mr. O. M. Misenar, superintendent of schools at St. Clair, Mich., died at his home in that city on October 18th, following a long illness. Mr. Misenar was a graduate of Alma College, of Michigan University, and Columbia University and had been superintendent at St. Clair for the last eight years.

-Mr. J. M. Scudder, superintendent of schools at Huntington, Ind., has been given a life membership in the National Education Association.

Association.

—Mr. Sheridan Osborn, 84, a well-known educator of Michigan, died at Sturgis. Mr. Osborn was a graduate of the Michigan State College and of Hillsdale College, and was superintendent of schools at Sturgis from 1881 to 1886.

—State Supt. F. E. Land of Georgia has been nominated to succeed himself for another term. Mr. Land had been in office a little over a year, which had hardly given time for him to work

which had hardly given time for him to work out his own policies. With his reelection to office, he will now go ahead maturing his ideas and getting everything in shape for the next

and getting everything in shape for the next general assembly.

—Dr. Albert C. Hill, former chief of the special schools bureau of the New York State Department of Education, died at his home in that city. Dr. Hill served the department as an examiner in 1894, and in 1904 took charge of the special schools bureau having supervision of schools for the blind and deaf and prison institutions. He retired as head of the bureau in 1924.

—Miss Helen Heffernan, formerly rural supervisor of the schools of Kings County, Cali-fornia, has been appointed State Commissioner of Elementary Schools, succeeding the late Mamie B. Lang. Miss Heffernan is a graduate of the University of Nevada and the University of California and her work in Kings County has brought her prominently before educators in the West.

in the West.

—Mr. Richard J. Werner, formerly state supervisor of agricultural education in California, has been appointed Commissioner of State Secondary Schools, succeeding A. C. Olney.

—Supt. C. W. Jenkins of Kellogg, Ida., has been reelected head of the Wardner-Kellogg school system, at a salary of \$3,600.

—Dr. James E. Russell has resigned as Dean of Teachers' College, Columbia University, and will be succeeded by his son, Dr. William Fletcher Russell.

—Dr. Francis G. Blair, president of the N. E. A., was tendered a reception by the New York City teachers. Among those who partici-

York City teachers. Among those who partici-

pated in the reception was Dr. John H. Finley, Miss Olive M. Jones, Miss Mary McSkimmon, Miss Charl O. Williams, and others equally prominent.

—Mr. G. P. Young of Arapahoe, Colo., has been elected superintendent of schools at Ala-

Mr. C. G. Duncan, of Burlington, Colo., has been elected principal of the Central Junior High school at Alamosa.
 Miss Suzanna Koehler, of Columbus, Ohio,

has been appointed to the position of supervisor of elementary instruction in grades one to six at

Orlando, Fla.

—Mr. J. B. Walker of Leesburg, Fla., has been appointed principal of the senior high school at Orlando, Fla.

Governor Seeks to Oust Superintendent

The law of Michigan provides that the governor may enter ouster proceedings against any state official. The present governor, Alexander J. Groesbeck, has proceeded to oust Thomas E. Johnson, state superintendent of public instruction. Johnson incurred Groesbeck's displacement of the present him at the recent displeasure when he opposed him at the recent primaries which resulted in Groesbeck's defeat. The governor charges Johnson with having il-legally accepted outside salary and with having been interested in contracts made with the state.

The basis of the misappropriation of funds charge is that Johnson accepted a salary as head of the state vocational training bureau to which he was not entitled by law. The money came from a joint fund of the state and federal governments. The work had always been done by state appointive officers prior to Johnson's taking it over.

It is charged that Johnson's salary of \$5,000 as superintendent of public instruction "also embraces and includes general supervision of all educational institutions and education within the State of Michigan" and that it is illegal for him to accept other compensation.

Five specific instances of bonds being written by Johnson's company for state normal schools are cited in the complaint.

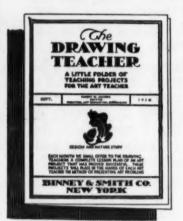
"There has been no secret of my connection with either of the enterprises mentioned," John-

THE PROPERTY OF THE PROPERTY O

To Brown of the Resident of the Control of the Control of the Resident of the Resident of the Control of the Co

A Valuable Free Service For Your Art Supervisors and Teachers

FOUR years ago we founded our ART SERVICE BUREAU, to give definite help in classroom problems pertaining to drawing, color, handwork, or art work employed to vitalize grade subjects. This service is a distinct contribution toward raising the standard of teaching, for it gives technical assistance and broadens the teacher's horizon.



Is your Art Instructor receiving "The Drawing Teacher"? If not, write

That its value is appreciated is proved by the unending stream of inquiries coming to the Bureau from teachers all over the country, for help in specific projects.

These questions are answered in detail by Rose Netzorg Kerr, formerly Director of Art in the Western State Normal School, Kalazamoo, Mich. Of great value also is "The Drawing Teacher," edited by Harry W. Jacobs, Director of Art Education, Buffalo, and giving each month a teaching project with a definite solution.

Urge your Art Supervisors and Teachers to make liberal use of this service, given without charge, addressing their letters to

The Art Service Bureau

where they will receive Mrs. Kerr's personal attention.

NNEY & SMITH 41 East 42nd Street

son said. "I am convinced everything I have done was legal. My salary as director of the insurance company averaged \$40 a year. I had invested in the business because I believed in its soundness and for no other reason.

"Regardless of the facts of the case, I realize I am convicted before the hearing before the governor starts. Under the law he is both prosecutor and judge and for all practical purposes he is the complainant as well.

"I have hopes, however, that the supreme court will so construe the law that it will prevent a governor from arbitrarily removing a state officer on trumped-up charges such as these. The governor told me he would 'get' me when I refused to cater to his wishes as a member of the State administrative board and he is now busy carrying out his threat."

NEWS OF OFFICIALS

-Mr. B. H. Johnson has been elected a member of the board of education at Elmira Heights, N. Y.

-Mr. Joseph W. Crowe and Mr. Virgil W. Samms were recently elected as members of the board of education at Boise, Ida. Neither of the men has had actual experience in school work, each is equipped with open-minded interest in school matters, a desire to become thoroughly informed regarding school needs, and a readiness to give faithful service. Mr. Crowe is manager of the local power company, and Mr. Samms is the district manager of a life insurance firm.

-Mr. Paul M. Pierson has been reelected president of the Ossining, N. Y., board of education for the twentieth consecutive year.

—Mr. Herbert Armstrong has been elected business manager of the board of education at Topeka, Kans. Mr. Armstrong is a graduate of the Kansas University law school and was for eighteen years chief deputy clerk of the state Supreme court.

-Mr. G. M. Clark has resigned as superintendent of schools at Stoutland, Mo., to accept a position as high school instructor at Tulsa, Okla.

SCHOOLHOUSE DEDICATIONS

The dedication of the New Lexington, Ohio, high school was marked by addresses given by

Mrs. Grace Lowe, president of the board of education, Thomas Morgan, principal, George M. Morris of the state department, and Mrs. Rachel Owens You, county superintendent.

—Frank Cody, superintendent of Detroit, Mich., school was the principal speaker at the dedication of the new Daniel Kaiser school at Dayton, Ohio.

—At the dedication of the high school at Brewer, Me., Augustus O. Thomas, state commissioner, was the principal speaker.

--Dr. H. D. Williams, president Bowling Green state normal school, was the principal speaker at the dedication of the first centralized school at Allenco, Ohio.

-The dedicatory speech of the new high school at Marietta, O., was made by Edward J. Mildren, who represented the school board.

-Wilson Hawkins, superintendent of the Canton schools, spoke at the dedication of the Garfield high school at Akron, O. R. J. Keifer,

superintendent at Niles, was also a speaker. Supt. George E. McCord presided.

—The speakers at the dedication of the new Cleveland school at Youngstown, Ohio, were Superintendent J. J. Richeson, L. U. Hulin, president of the school board, and William H. Rowney, chairman of the building committee.

—Dr. C. C. Kohl of the Bowling Green normal school was the principal speaker at the dedication of the new Atkinson school, Fremont, Ohio. The parent-teachers' association served a chicken supper.

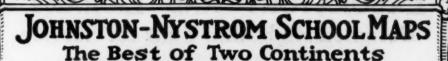
Ohio. The parent-teachers' association.

a chicken supper.

—The new Fenger high school opened in Chicago was named after Christian Fenger, a famous surgeon. The dedication was characterized by a student parade from the old to the new school headed by Theophilus Schmid, a member of the school board, John E. Byrnes, its business manager, and Thomas Crawford Hill, the principal. The building was erected at a cost of \$2,600,000. Its seventy rooms accom-



A CLASS IN THE COOK COUNTY JAIL, CHICAGO, UNDER THE DIRECTION OF MISS FLORENCE E. SOULLY. THE BOYS ARE AWAITING TRIAL FOR CRIMES RANGING FROM PETTY LARCENY TO MURDER.





Illustrating the ATWOOD Regional - Political GEOGRAPHY MAPS

INCOCOMI



Newest and most popular of our publica-tions. Made to correlate with the Problem Project Method of teaching geography. Have met with wide approval of teachers, superintendents and principals. Ten maping the series. Colors beautiful and har-monious, Perfect for visualization.

CONFIDENCE

One word that sums up "Nystrom" preference

The name "Johnston-Nystrom" on school maps has become an accepted mark of guaranteed value. A name to evoke confidence.

TOHNSTON-NYSTROM" popularity and leadership has been built on meeting modern school needs. Internationally known geographers, historians and biologists work in collaboration with a corps of editors to assure absolute accuracy. Unusual beauty and visibility are made certain by unstinted use of lithographic colors. Rigid standards are maintained. Schoolroom utility is always paramount.

For lasting school map satisfaction and a sound investment in unsurpassed quality -school boards and teachers alike always specify The "Johnston-Nystrom" Line.

YSTROM & Co.

SCHOOL MAPS, GLOBES AND CHARTS

2249-53 Calumet Ave.

Chicago, Illinois



Send me without obligation your free book-let, "World Achievements," explaining the Atwood Regional-Political Maps.

City



PETERSON LABORATORY AND LIBRARY FURNITURE Designed Right and Built for Service



The experience of thirty-five years of specialization is embodied in the design and construction of Peterson Furniture for the laboratory and library. Thirty-five years of progress -years devoted to one ideal—that ideal of quality and service resulting in a growth from a work bench in a single room to a most modern woodworking plant covering sixty thousand square feet and equipped with the best machinery and methods known to the craft.

LABORATORY FURNITURE-Peterson's Laboratory Fur-LABORATORY FURNITURE—Peterson's Laboratory Furniture commands a leading position in schools throughout the country. Where quality and dependable furniture counts you will find Peterson Furniture. A wide range of sizes and styles enables you to make selections most suitable for your particular requirements. Write for Catalog No. 14A. LIBRARY FURNITURE — Peterson's Standard Library Furniture meets all the requirements of a school library and combines beauty of design with the highest type of construction to insure a long useful life of service. We also manufacture furniture of special design when necessary. Write for Library Catalog No. 15A.

Correct in design, quality construction and a dependable service recommend Peterson Furniture as standard for your schools.



Manufacturers of Guaranteed Laboratory and Library Furniture

OFFICE AND FACTORY 1222-34 Fullerton Avenue

Chicago, Ill.

DISTRIBUTORS IN—
New York Grand Rapids Minneapolis Kent, O. Richmond, Va. Kansas City Denver Huntington, W. Va. Sheridan, Wyo. Houston Dallas Omaha Baton Rouge, La.



AUTOMOBILES AND SCHOOLS IN CALI-FORNIA

FORNIA

Mr. George C. Jensen, writing in the latest issue of the Sierra Educational News on the subject, "More Automobiles than School Children," shows that there are more automobiles of the passenger type in California today than there are pupils or students in all of the schools of the state combined. If every boy, girl, man, and women who attends a public school in the state could ride to school in a California automobile, there would be enough cars left over to care for all the members of the faculties, with fifty thousand to spare.

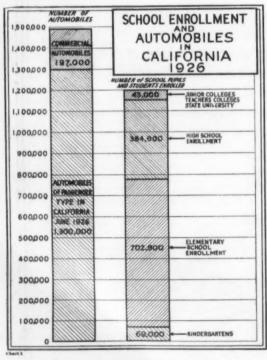


CHART I. A COMPARISON OF THE TOTAL NUMBER OF AUTOMOBILES AND SCHOOL CHILDREN IN CALIFORNIA.

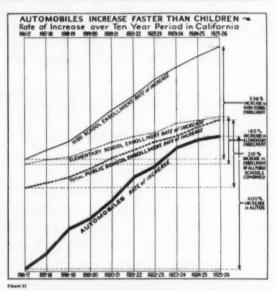


CHART II. RELATIVE GROWTH OF AUTOMOBILES AND CHILDREN.

During the period from January first to June 30th, 1926, it is estimated there were registered with the division of motor vehicles at Sacramento, a total of 1,549,093 motor vehicles, of which number 1,314,293 were of the passenger type. During this time there were enrolled in the schools a total of 1,199,840 persons, including 702,570 elementary pupils, 384,010 secondary school students, 3,479 students in junior colleges, and 69,364 in kindergartens. This means that there are at the present time, over 100,000 more automobiles of the passenger type in California than there are persons enrolled in all the schools of all kinds. of all kinds.

Again, it is shown that the rate of increase of automobiles as compared with the rate of increase in enrollment, is significant. From 1916 to 1926 there was a 400 per cent increase in the number of automobiles in the state, while the increase in enrollment in the schools was 210 per cent. The high school increase was 336 per cent, which includes the great growth in evening and other classes for adults. The growth in elementary schools was 165 per cent. During the period, it is shown, automobiles in-creased twice as rapidly as did school enrollment.

The total expenditures for 1923-1924 for all kinds of public education was \$130,737,912. In 1925 it is estimated that 807,519,350 gallons of gasoline were sold at an average cost per gallon of eighteen cents, making the cost of gasoline for that year \$145,353,483. If the capital outlay, cost of oil, tires, repairs, and other expenses were added to the cost of automobiles, the cost of education becomes insignificant in comparison. cant in comparison.

The article attempts to show that there can be no justice, on one hand, in complaining of the high cost of education, and on the other, condoning the much higher cost of automobiles. The only difference in the two types of expenditures is this: School expenditures are imposed by law and raised by taxation, while automobile expenditures are self-imposed by the owners of the cars.

American Library Association, now —The American Library Association, now in its fiftieth year, has a membership of 8,000 and an income which exceeds \$400,000. More than ninety people are employed by the Association for Work in Chicago, St. Louis, Washington, Philadelphia, and Paris, and the sales of its publications for the first six months of 1926 show a gain of more than 250 per cent over the same months of last year.

A total of 61 committees are engaged in studies of library problems, such as bookbinding, book buying, salaries, school libraries, hospital libraries, and similar work.

hospital libraries, and similar work.

—A gift of three pictures was presented to the high school of Boise, Idaho, by the class of 1926 on September 13th. The pictures are Washington laying his commission at the feet of Columbia, Blashfield; Washington delivering his constitutional address, Oakley; and Lincoln at Cottysburg, Oakley

at Gettysburg, Oakley.

The pictures were presented in the name of the class by the vice-president, and were accepted by the acting president of the student





she goes along.

Colored chalks help this graphic presentation immeasureably.

Our leadership in blackboard chalk is not confined to the white. "Old Faithful" colored chalks have equal prestige and recognition with the school authorities of America.

"Old Faithful" 510 Series (our best grade) are without a peer today among colored chalks. Compare the markings made with this chalk side by side with those of any other make and judge for yourself.

THE AMERICAN

MERIGAN
HOME OFFICE
AND FACTORIES



CRAYON COMPANY

315 HAYES AVENUE SANDUSKY: OHIO

NEW YORK · DALLAS · SAN FRANCISCO

LEADERSHIP SINCE 1835
91 Years of Faithful Service



Remington Typewriter School Sales Break All Records

DURING the past year the demand for Remington Typewriters for instruction purposes in the commercial schools of America has been without a parallel in typewriter history.

This demand clearly indicates the outstanding merit and popularity of the Remington as a teaching machine. It also reflects the enormous prestige and reputation of the Remington product throughout the business world.

The aim of every business school is to supply its graduates with the kind of training needed in the business office, and these record-breaking purchases of Remington Typewriters by commercial schools show conclusively the present trend of business requirements.

Remington Typewriter Company
374 Broadway New York

Branches Everywhere

They Learn Easier When You Teach With Pictures

"I find that anything taught by the pictures is remembered far better and longer than regular class instruction" wrote Miss Elinor G. Price, Montclair Teacher.

Miss Price is another one of the

Miss Price is another one of the hundreds of educators who are enthusiastic about the Spencer Film Slide Delineascope and Service.

TO use her own words—"I view it as a chance for clear decisive teaching. Then too, the Delineascope way is so much easier and cheaper than the lantern slide method that it recommends itself to anyone who realizes the value of visual instruction."

You too should know the many ways that this new machine and service can make your classroom work easier. The coupon will bring you worthwhile information. Send it now.

SPENCER LENS COMPANY BUFFALO, N. Y.

1	Please tell me more about the use of film slides and how they'll make my classroom work easier.
	Name.
	Address
	City
1	Institution

Addition Subtraction Multiplication Division



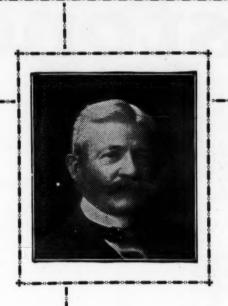
HIGH SPEED ADDING-CALCULATOR Principal, assistant or teacher-clerk needs in the compilation of school reports and statistics. A wonderful aid in the figuring of correlations.

MONROE CALCULATING MACHINE COMPANY, INC.

General Offices: ORANGE, N. J.

Monroe Machines and Service are available in all Principal Cities of the U.S., Canada, Great Britain, Europe and throughout the world.

So Easy to Operate a Child can Use it



New Books for the January Term require HOLDEN BOOK COVERS

To preserve them in a durable, sanitary, attractive condition during the school year.

Holden Material is Unequalled.

Holden Service is Unapproached.

Holden Prices are within the reach of large and small School Boards.

Order Now " for All New Books and those in good condition.

SAMPLES FREE

Holden Patent Book Cover Company

Miles C. Holden, President

Springfield, Massachusetts

POLICIES IN OPERATING A SCHOOL LUNCHROOM

LUNCHROOM

The school board of Salisbury, N. C., under the direction of Supt. G. B. Phillips, has worked out policies for operating the school lunchrooms. It is recognized that the school lunchroom of today is a vital part of the educational program and the school officials have made every effort to provide wholesome and economical lunches for the children. Each child who has his lunch at school, either by buying it, or by bringing it with him, decreases to that extent the possibility of accident on the street, and it is for this reason the school makes the request that parents sign a lunch card for children who go home to lunch. Those children for whom a lunch card is not provided by the parents will be kept on the school ground.

lunch. Those children for whom a lunch card is not provided by the parents will be kept on the school ground.

The lunchrooms are not operated for the benefit of the individuals who operate them. The agreement given below explains the basis upon which the lunchrooms are operated.

1. The purpose of the cafeterias or lunchrooms in the various schools is to provide a well balanced, wholesome lunch for school children at a reasonable cost to the individual and at the same time offer the managers a chance to secure a reasonable profit for their work.

2. The school system cannot offer any manager anything except full cooperation and a place to serve the food.

3. The parent-teacher associations have provided certain equipment for the various rooms.

4. The individual managers are responsible for the gas bills incurred for cooking purposes. A separate meter for the kitchen is necessary and the bill must be sent to the manager.

5. The manager is responsible for all bills incurred for servant hire, supplies and materials used in serving lunches other than that furnished by the associations.

6. Each manager is asked to make out a monthly report on the form provided for this

6. Each manager is asked to make out a monthly report on the form provided for this and turn it over to the superintendent of schools who will thereby keep a record of the standing of each cafeteria. Information given on this form will not be for general use but will be confidential

7. No manager will be allowed to make an unreasonable profit if such a thing is possible.

8. The superintendent of schools and the county health officer, with the principal of each school, form the supervisory committee for each lunchroom. This committee will have the right

to inspect and make suggestions as to the menu and manner of serving provided there is a question which needs such attention.

9. There should be no charging of food to pupils or teachers. If this is done the principal

pupils or teachers. If this is done the principal is in no way responsible for collections.

10. Special emphasis should be placed upon the drinking of milk. Nothing but the raw milk bottled at an "A" grade dairy can be served.

11. Standard wholesome candy may be sold provided the manager supervises the sales so as to prevent students from spending all their money for candy. No child should be allowed to buy more than five cents worth as a dessert.

12. No bottled drinks of any kind are to be served.

be served. 13. Weinies or hot dogs may be served only after they have been thoroughly cooked by boiling and then baked or fried.

Dismissal of Teacher Final Where Commissioner So Decides

A teacher who has been removed and who, after appeal to the New York Commissioner of Education has her removal confirmed by him, has no appeal under the state law, according to a decision given by the New York Court of Appeals on October 5th. The decision of the Commissioner is final and conclusive, and having appealed to him, a removed teacher is barred from appealing to the courts unless the commissioner's action is arbitrary.

The judgment was rendered when Sarah Levitch, as administratrix of Kay L. Levitch, deceased, respondent, appealed for a peremptory order of mandamus versus the board of education order of mandamus versus the board of education of the City of New York, appellant. The defendant's appeal was from an order of the Appellate Division of the Supreme Court reversing an order of the special term which denied the petitioner's motion for a peremptory mandamus. The Appellate division reversed and granted the motion.

The decision is as follows: "Assuming, without deciding, that Kay L. Levitch was removed unlawfully from her employment, as a school teacher under Section 872, subdivision 3, or the

Education Law (Cons. Laws, chap. 16), she having appealed to the commissioner of education the decision was final and conclusive upon her. Under section 890, the commissioner has jurisdiction to hear the appeal of any person aggrieved who had been refused pay as a teacher or had been effected by the decision of any school authority. The fact that the question may have involved the construction of application of any licetion of any licetion of any licetion of any licetion. authority. The fact that the question may have involved the construction of application of a statute did not deprive him of jurisdiction (Barringer v. Powell, 230 N. Y., 37, 43).

ringer v. Powell, 230 N. Y., 37, 43).

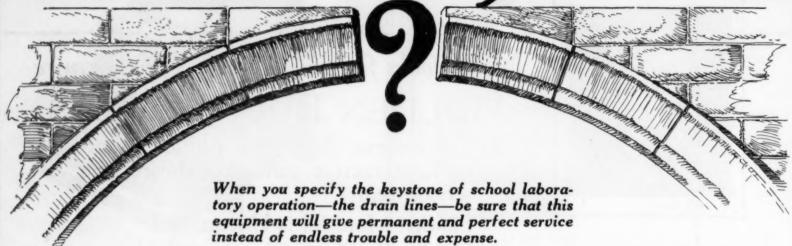
"The Education Law specifically makes the commissioner's decision final and conclusive. There is nothing here to show that his action was purely arbitrary. He was called upon to decide whether the teacher by reason of her various appointments and service came within the provisions of section 872, entitling her to notice and hearing before removal. He decided that she did not hold such a permanent position. Having appealed to the commissioner, the petitioner and her substituted representative were barred from resorting to the courts. What her rights would have been if she had not appealed to the commissioner we do not determine. her rights would have been if she had not appealed to the commissioner we do not determine. His conclusion was final (Matters of O'Connor 1. Emerson, 196 App. Div., 807, 810; affirmed 232 N. Y., 561; Bullock v. Cooley, 225 N. Y., 566, 576; People ex rel. Board of Education v. Finley, 211 N. Y. 51).

"The order of the Appellate Division should therefore, be reversed and that of the Special Term affirmed, with costs in this court and in the Appellate Division."

ADVANCEMENT IN SCHOOL SERVICE
In the direction of increased salaries for
teachers who contribute to the advancement of
the school service, Supt. William McAndrew of
the Chicago school system, has asked the principals of the several buildings to get the views
of their teachers and to present their suggestions for improvement. The suggestion was
contributed to the teachers' council by one of
its members and was approved. Mr. McAndrew

"It is frequently said that educational organ-ization tends to convert a teacher into much of a mere follower of directions of a routine kind. Originality, imagination and constructive thinking should be recognized and encouraged.

hat Kevstone



The acids and chemicals that are poured into laboratory drains corrode and destroy ordinary pipe in a short time.

Only one material is wholly unaffected by all corrosives used in the laboratory, Duriron, the Universal Acid Resistant.

Duriron pipe lasts as long as the building, and forestalls replacements, repairs, and structural damage from leaking acid.

The certainty of Duriron's perfect resistance to corrosive attack is the reason why Duriron can be, AND IS, fully guaranteed.

Duriron is produced only by DURIRON COMPANY DAYTON ON IO

Improvement of instruction should be the aim of the school system. A large number of teachers would welcome provision for official recognition and reward for individuality, research, discovery, invention and improvement in the activities of school: materials, methods, modifications of the course, constructive criti-cisms. The Chicago Schools Journal reveals cisms. The Chicago Schools Journal reveals from year to year contributions from teachers in this line. If invitation were general, if suitable reward were offered, an increase of the number rendering advanced service would be found. Promising experiments in separate schools would be given wider fields.

"It is proposed that the Superintendent recommend to the heart of education the greating of

"It is proposed that the Superintendent recommend to the board of education the creation of a small staff, say a teacher and two clerks, to promote and record improvements in service; experiments, methods, management, organization, courses, in all activities and grades. Written accounts of teaching and organization projects, recounting objects and results are to be received by this staff, suggestions given, conferences with principals held and arrangements made for appraisal by competent committee. Approved propositions can be recommended for made for appraisal by competent committee. Approved propositions can be recommended for general adoption after conference with teacher and principal. The projects can be elaborated in the Chicago Schools Journal. Work thus developed of advantage to the system will be accorded credit for the promotion of teachers from lower to higher salary group, for recognition in promoting those now in the upper group to higher positions, and for other recognition which may be suggested as a result of the discussion of the plan by you and the teachers in your next meeting. Some such arrangement is wanted to furnish every teacher a standing invitation to be more than an isolated unit in a large system and to increase the already considerable number of progressive teachers. Engia large system and to increase the already considerable number of progressive teachers. Engineers, doctors, chemists, are generally doing this sort of work. So are members of teachers' colleges. Industrial organizations, research societies, offer prizes for 'success in it. Why should we?" "1. Do your teachers approve the general proposition?

How extensively?
What are the objections to the general proposition?

What to any of the details?

What improvements do your teachers propose?"

SCHOOL ADMINISTRATION

—The New York City board of education will introduce school luncheon service in four more schools. The concessionaire system will not be recognized. The service will be under the direcognized. The servection of the board.

-The Pontiac, Mich., board of education has decided that hereafter all athletic contests carried on in the school gymnasium must be under the control of that body.

The evening schools of Seattle, Washington, are offering a series of lectures to interpret to parents the characteristics of children at varito parents the characteristics of children at various ages explaining how the school utilizes these characteristics in shaping its work. These lectures are open to the public, the following being the topics for the first five meetings: 1. The Pre-School Child; 2. The Primary Child; 3. The Adolescent; 4. The High School Boy; 5. The High School Girl.

The topics are to be handled by supervisors and principals who are directly connected with the school system.

—The Montana state board of education recommends the location of a second normal school in the state. The city of Billings offers to donate a 52 acre tract near the edge of the city for the new school.

—Statistics recently compiled at Falmouth, Mass., indicate the rapid increase in pupil enrollment over a two-year period. The total enrollment for September, 1926 was 1,069, as compared with 1,026 in 1925, and 911 in 1924. This is an increase of more than seventeen percent, which would indicate a pupil enrollment of about 1,500 in 1930. The most noticeable increase was in the Lawrence high school and the junior high school, the former having a thirty per cent increase in enrollment, and the latter er cent increase in enrollment, and the latter 32 per cent.

—Bellville, Ill. Supt. H. V. Calhoun has proposed a change in the time of school sessions by which pupils of the grade schools will be dismissed a half hour earlier in the afternoon. Under the plan, schools will open at 9 o'clock in the morning, will be dismissed at 12 o'clock

for the noon intermission; resume sessions at 1 o'clock and be dismissed at 3:30 o'clock. The noon recess has been reduced from one hour and fifteen minutes to one hour.

The U.S. Bureau of Education has made public a summary of a report setting forth the results of an investigation recently conducted by the Educational Measurements Bureau of the New York State Department of Education, showing the extent to which pupils in schools of that state are grouped in classes according to their mental ability.

According to the report pupils are grouped according to ability in approximately 35 per cent of the junior and senior high schools of the State of New York, according to 497 replies received by the Educational Measurements Bureau of the State Department of Education, to assertion the extent to which grouping contributes are received. certain the extent to which grouping is carried out in high schools.

Grouping is usually affected in the ninth grade, and is generally based on intelligence tests, though frequently on the teacher's estimate of the pupil's ability or his marks in school. In 147 schools pupils of different ability are grouped in separate classes, and 109 schools reported that ability groups are formed within classes. Some schools use both procedures.

Where Consolidated Schools are Needed

"Lying around the village of Burnett, averaging only a mile from each other, are ten schools with scarcely more than 100 scholars in all. Ten teachers are paid, ten buildings are maintained—to keep ten schoolhouses in operation with an average of ten pupils. There are one or two goodsized schools, but others have as few as five students." So says Will C. Conrad, a writer on the subject. Burnett is in Dodge County, Wisconsin. When County Superintend-County, Wisconsin. When County Superintendent Kaiser was asked whether the people could not be persuaded to consolidate their schools, he said: "No, the idea of the little district school is too deep-seated. So long as the district school boards are supreme they are going to maintain these schools. The only way is to impose consolidation, where consolidation would be a benefit, through legislation.

Good Laboratory Furniture can only be made properly in a Factory where

Trained artisans are employed

> A complete Plumbing Department is maintained

2 Acomplete Engineering Department is available A complete Electrical Department is maintained

> These four factory qualifications are extremely important and should be given primary consideration by every School Board in contemplating an investment in Laboratory Furniture.

> School Officials interested in the installation of Laboratory Furniture for the teaching of Physics, Chemistry, Biology, Agriculture, Electricity, Domestic Science, Manual Training, etc., should write for a copy of the very complete Kewaunee Book. It will be sent free to Boards or School Officials.

FURNITURE /

C. G. Campbell, Treas. and Gen. Mgr.

101 LINCOLN ST., KEWAUNEE, WIS.

DISTRIBUTORS

Minneapolis Kansas City
Lincoln, Nebr. Jackson, Miss.
Greensboro, N. C.
Portland, Ore.

Ross Boilers

have a smokeless digestion



Boiler dyspeptics are doomed. Like humans, many are fed in unlimited quantities with little effect. Indigestion may be an acquired disease with people, BUT-it is a built-in malady in boilers.

The digestive organs of ROSS Boilers are so built that they absorb the heat units. The water circulation, exposed surfaces and general design admit of the greatest economy of fuel-either low-grade coal or oil.

If you will have your Engineering Department study this catalog they will tell you many reasons why ROSS Boilers can deliver more heat units with less fuel and physical effort.





1524 Henderson St. Galesburg, Ill.

943 Syndicate Trust Bldg., St. Louis, Mo. 15 Park Row, New York, N. Y.

962 E. 37th St., Brooklyn, N. Y. 2604 Fourth Avenu at Grand River, Detreit, Mich.

BRANCHES:

2126 Edmondson Ave., Baltimore, Md.

1424 Fairmount Ave., Philadelphia, Pa.

2309 Union Central Bldg., Cincinnati, Ohio.

112 W. Adams St., Chicago, Illinois.

1748 Louis Ave., Milwaukee, Wis.

478 Rockefeller Bldg., Cleveland, Ohio.

316 Glencoe Bldg., Duluth, Minn. Peoria, Illinois.



Peabody High School, Pittsburgh, Pa.; Ar-chitect, E. B. Lee; Htg. Contractor, Ryan Heating Co.

The Reason Why so Many Schools use **DUNHAM HEATING**

Dunham Low Pressure Steam Heating is used extensively in schools of every type and size because it has definite advantages that are especially adapted to school heating requirements. Its silent operation removes all possibility of annoyance to teachers or pupils because of thumping, pounding radiators—or noisy, leaky air valves—present in old one and two pipe systems.

In cold weather steam is delivered to the radiators quickly at a very low pressure because the Dunham Thermostatic Traps free all radiators of air and water providing a rapid and thorough circulation. In mild weather, the Dunham Packless Valve (on each radiator) gives easy, flexible control of individual room temperature and prevents overheating.

These features of silence, flexibility and ease of control, together with Dunham's reputation for economy of operation and maintenance, have been deciding factors with school board officials in all parts of the country for two decades.

Send for Dunham Data on the heating of schools.

Look

for the Name

DUNHAM

C. A. DUNHAM CO. DUNHAM BUILDING 450 East Ohio Street, Chicago.

Over sixty branch and local sales offices in the United States and Canada bring Dunham Heating Service as close to you as your telephone. Consult your telephone directory for the address of our office in your city.



John Morrow School, Pittsburgh, Pa.: Ar-chitects, McClura & Spahr; Htg. Contrac-tor, Ryan Heating Co.



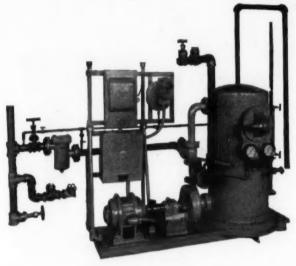
YOUNG

CENTRIFUGAL VACUUM
AND BOILER FEED

Supplied in Standard Units of Seven Capacities PUMPS

VI unit equipped for automatic vacuum control, showing piping connections. Suction strainer and check valve at inlet of pump are furnished with unit, as well as companion flanges, bolts and gaskets.





Noted for their Powerful Suction and Large Reserve Capacity

YOUNG Centrifugal Vacuum and Boiler Feed Pumps are designed to discharge water from the system four times faster than the normal rate of condensation. This is the maximum discharge with by-pass valve fully opened.

At times of peak load, for example, when steam is first turned on, ample power and large reserve capacity of the pump are of vital importance.

Young Pump motors are of sufficient size to insure a powerful suction and maintain a large reserve capacity, this without being uneconomical in power consumption. The design of the Young Impeller and of the Exhauster combine to insure remarkable efficiency in these important factors. The Impeller is powerful, simple and positive. The Young Exhauster provides maximum vacuum and ample air and water capacity by breaking up the stream through the design of the exhauster nozzle and delivery tube, a feature covered by exclusive Young Pump patent applications. All of this is accomplished with a relatively small power consumption.

Young Pump Company

DUNHAM BUILDING

450 East Ohio Street, Chicago

Factory: Michigan City, Indiana

A SOLDIER TEACHES SCHOOL: A PEACE-VALE SCHOOL STORY

(Continued from Page 58)

want of teachers who knew their lines, and for want of interest in routine matters. A woman teacher with a brother at the front, a school child with a sister overseas as nurse, or with a father making fancy wages in a war factory and a mother doing almost as well in paper currency and neither at home at noon—these were typical cases of mental alienation from the routine of school education.

All the while, not a single complaint to anyone from the city school superintendent. He secured substitutes; he ordered portable schoolhouses; he directed the school repairs and upkeep; and when discipline broke down entirely in a schoolroom, there he was almost at once, and there came peace and order forthwith. The fact that the salaries got two, and even three months, in arrears, he could not help.

When in the war encampment south of the swamps below Peacevale, the influenza struck in and one-tenth of the boys went down, the Colonel met the remains of the dead and organized military burials. When there was dire need, the Colonel handed cash to the family, his own cash. No family, however proud, if poor, could refuse his help. The armistice brought no relief. He was one of those who felt that if the war had to be fought at all, it should have been finished in Berlin and nowhere else. Being a soldier, he never discussed the main and original question.

The return of the soldiers in 1919 added to his work. Late in May, a schoolhouse burned down; it happened the very first Friday night that he had given to a weekend on the farm since the Christmas holidays. There had just been a school election, and the new board had not yet organized. Some of the board members argued that with better janitor service, and

more night watchmen, the fire might have been avoided, or at least more quickly controlled. It was all "after the event, wisdom." Not that it annoyed Colonel Deems; it merely stood as new evidence of the war hysteria, and of the war neglect of ordinary interests. He did not even say that the fire would prove a blessing to the schools and to the children of Peacevale, for that particular schoolhouse was one of several that should have been torn down as a firetrap and a panic trap as well. What he saw was that his own competence had become a barrier to activity by the board, and that the members looked upon him as both the commander in the field and the commissariat behind the lines.

Middle June found him busy with plans for high and normal school commencements, for the work of the year to come, and for a vacation on the farm for himself, cherishing a hope that duty might allow him to retire. He was 72 years old, but the only sign of weakness was that his eyes had retreated deeper than ever into his head—cool, grey eyes, outdoor eyes despite the past two years. Out there on the farm, he was good for many and many a year. Four generations of pioneers were behind him; his own parents had each lived to be ninety years old.

But after he had cleared his desk, answered the telephone calls for the morning, and was getting ready to go to the home of a sick high school senior who might not be able to get to commencement—one of his "Island" boys of past years—Colonel Deems felt a sudden chill and sat down in a chair by the office door. In that chair, the first doctor summoned by the one office clerk found him an hour later. He never rose from it alive.

They had a magnificent funeral with all the military pomp. The newspapers made much of the case with pictures of the schools and the

farm, of the soldier boy of '61, of the Colonel in charge of the City Armory at his desk there, and of the Colonel on horseback on dress parade with his regiment.

At the big high school commencement, old lawyer William MacGashan read the will of the Colonel. He was thin and frail and all a-tremble, dressed in the black of another generation. But all could hear the shrill yet wellmanaged voice. The Colonel had given whatever he possessed—the farm, the office-building, the Liberty bonds, the bank shares, his cashin perpetuity, reserving annually one-tenth of the income for accumulation of principal funds, to a board of seven trustees acting for life and self-perpetuating under court regulations for the children of Peacevale forever. The farm was to be run for their benefit, with playgrounds and pools for swimming, woodlots for picnics, and a sanitarium, free to the poor but at cost to others. The rules were to be determined from time to time at the discretion of the trustees, of which the will named seven.

Evidently the teacher-soldier had meant much when he said that all children should know something of the life that he had enjoyed as a boy. It was no accident that Judge William Burns was one of the first trustees.

The lawyer ended by saying that his was the finest charity yet established in Peacevale. But it would be worth far less if the people had never seen the life of the man who had done all this.

The new Peacevale would have the traditions of the first Peacevale and of its countryside, of its pioneers and outdoors men. After such a war as America had experienced, something like this was needed. And the will did end completely all the gossip about the way that Colonel Deems had himself made money out of the war!

No Chances for Contamination



The best way to enforce drinking sanitation is to install Rundle-Spence Sanitary Drinking Fountains. These "health bubblers" eliminate the ever-present chance of contamination-because lips can't touch the R-S nozzle.

Everyone must drink sanitarily from the R-S Vertico-Slant Fountain. The slight slant stream prevents water from falling back upon the jet. Clean, sparkling water always flows to satisfy thirst sanitarily.

The R-S line includes Sanitary Drinking Fountains, Bath and Plumbing Fixtures and Supplies. Write for catalog which contains complete information.

RUNDLE-SPENCE MFG. CO. 51 Fourth St., Milwaukee, Wis.

RUNDLE-SPENCE



Handsome vitreous china one piece fountain. Combines all the conveniences of the vertical stream with the special slanting stream feature. Glass or cup may easily be filled from it.

C 147

A pedestal fixture of galvan-ized pipe with extra heavy vitreous China bowl and ver-tico-slant stream. An extra strong foun-tain for the playground.



Perhaps this is the reason for the inscription over the gateway of the Deems Children's Farm Home at the crossroads, where once stood the schoolhouse in which the soldier boy did his first teaching when home from the Civil War. That school, restored as a work place for children in wet weather but set back into the grounds, bears witness to the soldier-teacher. On the gateway of brick and iron grill work stands this monument in bronze: "To him that overcometh will I give to eat of the tree of life, which stands in the midst of Paradise. Mark the perfect man and consider the upright, for the end of that man is God's Peace.

MENTAL CLINICS FOR SCHOOLS

MENTAL CLINICS FOR SCHOOLS

More than 18,000 retarded children of Massachusetts have been examined, with the giving of advice to their parents, since the establishment of mental school clinics, according to Dr. Neil A. Dayton, director of the division of mental deficiency of the state department of mental diseases. There are fourteen such clinics—made up of a physician who is an expert in mental diseases, a psychologist who does the testing, and a social worker—all of whom visit different parts of the state upon the call of the superintendent of schools. superintendent of schools.

Acording to Dr. Dayton the chief good of the clinics from the parents' viewpoint is that they learn the real reason for the child's backwardness. If there are physical factors to be ness. If there are physical factors to be remedied, the family physician can be consulted. If there are home conditions to be changed, this can be done. If a more encouraging attitude toward the child is imperative, this can be advised. Through conferences with parents it is possible to talk over matters of diet and to correct obvious errors in health or environment.

Dr. Dayton reports an encouraging improvement in the past two years in the physical condition of children. In the early years of the clinic, almost every child needed expert medical attention, but today fewer physical problems have presented themselves, which is attributed to supervision in the public schools and the excellent work of school physicians, dentists,

HYGIENE AND SANITATION

-A total of 148,000 school children in Chicago were examined last year through the efforts of the Chicago Municipal Tuberculosis Sanitarium.

the Chicago Municipal Tuberculosis Sanitarium. A large majority of the children were in the kindergarten or first grade. Of the total number, 110,000 were found with defects in need of treatment, and 43 per cent received the necessary corrections of defects.

—Nutrition is the most important factor in maintaining healthy teeth, according to Dr. H. H. Mitchell, director of school hygiene at Fall River, Mass. In the belief that good nutrition comes first in any dental program, Dr. Mitchell initiated and carried out a week's campaign, which aroused the interest of teachers and parents. Dentists, drug stores, newspapers, and health officers cooperated in the campaign.

—Tuscarawas is the first county in Ohio

—Tuscarawas is the first county in Ohio whose board of education has employed a public health nurse for the rural schools. The plan became effective on September first. The new

—Marion, Ill. A clinic for physically handicapped children was held last spring at Herrin, with Dr. C. W. East of Springfield, in charge. About 30 children were expected at the clinic, but all in all, 56 children were examined. As a result of the examinations and treatment at the heavital many of the children have been cured. result of the examinations and treatment at the hospital, many of the children have been cured of defects or deformities which had impeded their physical development and school progress. It is estimated that 90 per cent of crippled children may be entirely cured, or greatly improved, if their cases are taken in time.

The Marion school authorities have for some time maintained a special room for the education of physically handicapped children. In the room are enrolled crippled, blind, and deaf children.—Eatontown, N. J. A borough nurse has been employed for the city schools. The board of education and the local community club have contributed to the work.

—Pasadena, Calif. Special classes for children with poor sight or hearing have been organized under the direction of a special teacher. Children are brought to the center from all parts of the city, eight being enrolled at present.

parts of the city, eight being enrolled at present.

—Falls City, Neb. The local health department, in co-operation with the mayor and the city council has begun a movement to have every child vaccinated against diphtheria.

The constitutionality of the New Hampshire —The constitutionality of the New Hampshire law requiring vaccination of school children has been upheld by the state Supreme Court. The case, which was called a test case, arose when a bill in equity was brought by George J. Barber of Rochester, in behalf of minor children, against the school board of the same city, seeking the re-admission of the children without a new certificate. The court in its decision upheld the tificate. The court, in its decision, upheld the Rochester school board in its action demanding a new certificate of exemption from examination although one had been previously granted. The school board, on its part, had contended that the children were fit subjects for vaccination and that it was merely the purpose of the parent to exclude the children until vaccinated or a new certificate furnished.

exclude the children until vaccinated or a new certificate furnished.

—Marion, Ill. The Schick test for diphtheria and the Dick test for scarlet fever have been given to pupils in the schools. Each pupil is charged from fifty to seventy-five cents for each of the tests and the amount collected from pupils is paid to the physician who conducts the tests.

—Dr. J. Ferguson, speaking recently on the subject of "Dentistry," before the local Rotary club at Marion, Ill., declared that decay of the teeth has increased very rapidly in the last few years due to changes in diet. He pointed out that decay in the mouths of children of the country is retarding the mental and physical development of untold thousands. Dr. Ferguson expressed regret that hundreds of teeth must be sacrificed because of chronic infections which have been traced to the condition of the teeth. He urged that the medical profession and the school authorities give more attention to the solution of the problem of eliminating the conditions which call for the extraction of so many teeth.

—Dr. W. D. Stovall, director of the state

—Dr. W. D. Stovall, director of the state laboratory of hygiene at Madison, Wis., has urged the adoption of a system of pre-school clinics in Wisconsin cities as the first step toward community health programs.

Of the fifteen cities whose community social assets were studied in last year's better cities contest, all were lacking in adequate health programs. Dr. Stovall pointed out that the weakest points were the lack of medical examination of pre-school children, and of immuniza-



Director's Home



Boys' Cottage



Administration Building



Girla' Cottage



MARSH FOUNDATION Van Wert, Ohio Plumbers The Carey & Hall Company

Architects

Langdon, Hohly & Gram

Leading The Trend Towards Absolutely Perfect Sanitation

ITH each advancing decade, the need for perfect sanitation in schools and hospitals has become more and more apparent.

Upon those in charge of such institutions rests the responsibility of securing only the best proven plumbing — plumbing that will safeguard the health and lives of the school children and patients — plumbing that will pass the financial tests of time and wear.

It is because of these things that so many modern schools and hospitals are equipped with Clow plumbing throughout.

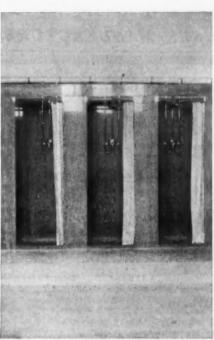
The Marsh Foundation at Van Wert, Ohio, is a notable ex-

ample. All five of the buildings shown on this page are completely equipped with Clow Plumbing — to preserve and maintain close-to-perfect sanitation and to obtain the operating, maintenance and replacement economies that only well-designed, well-built plumbing can effect.

Everywhere Clow is leading the trend towards absolutely perfect sanitation.

JAMES B. CLOW & SONS 201-299 N. Talman Ave. CHICAGO

Offices in Principal Cities



A Section of the Boys' Showers Marsh Foundation

CLOW

PREFERRED FOR EXACTING PLUMBING SINCE 1878





PLATE 4756 N

and double rubbe . All exposed bras ings heavily nicke

For Sanitation

Sanitation is one of the predominating factors in the selection and purchase of plumbing fixtures.

NONCO Plumbing Fixtures are not only scientifically designed to insure absolute sanitation, but are also durably constructed of selected materials, and combine mechanical perfection with beauty in appearance. Their installation is a positive assurance of absolute satisfaction and years of efficient and uninterrupted service.

NONC() Plumbing Fixtures have been used in schools for over 45 years.

N. O. NELSON MFG. CO.

Pioneer Manufacturers of Plumbing Fixtures for Schools

MAIN OFFICE: ST. LOUIS, MISSOURI

FACTORIES:

EDWARDSVILLE, ILL. NOBLESVILLE, IND.

BRANCHES:

Birmingham, Ala. Little Rock, Ark. Los Angeles, Calif.

Pueblo, Colo. Davenport, Iowa Salt Lake City, Utah

Memphis, Tenn. Houston, Tex. Houston, Tex.

BESSEMER, ALA.

PIONEER MANUFACTURERS OF PLUMBING FIXTURES FOR SCHOOLS

(Concluded from Page 116)

tion of such children against contagious dis-

The pre-school clinic system would supply examinations of all children to find physical defects during the summer before they first enter school. It would also give control of contagious

diseases by immunization.

—The custom of employing full-time school medical inspectors is growing in favor among boards of education in New York State. Prior to 1923, four cities and one village employed full-time school medical inspectors. This year instance sitting and six villages have medical inspectors. nineteen cities and six villages have medical direction in the schools. Elmira and Peekskill

are the latest cities to be added to the list.

"Children between the ages of 5 to 7 years usually have no physical examination before they enter school, and parents are either unthey enter school, and parents are either unaware of the defects present or neglect them," said Dr. Herman N. Bundeson, health commissioner of Chicago recently. "Early poor health habits develop bad teeth, poor nourishment, enlarged tonsils and other preventable defects. Physical defects in children cannot be corrected too early, and correction of physical defects increases resistance to communicable diseases and thus helps to lower the death rate."

—A systematic effort will be made in New

—A systematic effort will be made in New York to immunize against diphtheria all children in the state up to 10 years of age. The movement is under the leadership of the state department of health in cooperation with medical organizations of the state, and the state charities aid association. The movement includes five year program and the work will be volves a five-year program, and the work will be closely followed up by the medical inspection bureau of the state department of education.

The state health department of Massachu-The state health department of Massachusetts is holding free examination clinics for school children in the smaller towns of the state. Five physicians, a nurse, and a nutritionist comprised the unit in charge of the clinic. The children who are examined are made up of the following groups: 1. Children ten per cent or more under-weight. 2. Children exposed to tuberculosis. 3. Children referred to the clinic by the school or family physician. 4. Children whose parents indicate a desire that they be examined. examined.

At Evansville, Indiana, health work is to be emphasized through the assistance of Mrs. James Hitch, who will act as a representative of the board in conferences of nurses and doctors. Mrs. Hitch will supervise the work of the doctors and nurses and will make a study of health conditions. A campaign against diphtheria will be the chief duty of the school medical staff.

—Indianapolis, Ind. Attorneys representing a religious sect recently appeared before the board to request that parts of the physiology textbooks now in use be eliminated. The objectionable parts have reference to disease and disease symptoms and the complainants contend that the use of the texts is unconstitutional.

ASSOCIATION ELECTIONS

—Miss Lenore Parker of East St. Louis was elected president of the St. Clair County, Ill., teachers' association. Miss Belle Hauser of Belleville was chosen secretary.

—The Northeastern Minnesota Educational Association held its twenty-fourth annual meeting October 7th to 9th, at Virginia. The officers elected for the year were as follows: President, Mr. K. K. Tibbetts; secretary, Miss Charlotte E. Paulson; treasurer, Mr. R. W. Jackson.

—G. E. Platt of Keithsburg was elected president of the Blackhawk division of the Illinois Teachers' Association. Mollie Peterson, Kewanee, was chosen vice-president; Kate Dixon, of Geneseo, secretary, and D. B. Hoffman, of East Moline, treasurer. Fourteen hundred teachers attended the meeting.

—L. C. Smith of Wenona was chosen president of the Illinois Valley division. Other officers emphasized through the assistance of Mrs. James Hitch, who will act as a representative of

—L. C. Smith of Wenona was chosen president of the Illinois Valley division. Other officers elected are: T. C. Kohn, La Salle, vice-president; Sherman Littler, Henry, secretary; and T. N. Kennedy, Granville, treasurer. The executive committee appointed consists of Miss Elizabeth Bowers, Ottawa, chairman; C. H. Root, Morris, for two years; and C. L. Sarver, Spring Valley, three years Valley, three years.

Valley, three years.

—E. E. Van Cleve of Macomb was elected president of the Western division of the Illinois Teachers' Association. Vice-president, Caroline Grote, Macomb; secretary, Helen Rothgeb, Quincy; treasurer, A. E. Decker, Carthage; executive committee, chairman, C. F. Miller, Galesburg; F. M. Winbigler, Monmouth; A. G. Caldwell, Canton, new member for three years.

The Eastern division of the Illinois Teachers' Association elected the following officers: President, Miss Ellen A. Ford; vice-president, O. L. Minter; secretary, Miss Gertrude Clen-

President, Miss Ellen A. Ford; vice-president, O. L. Minter; secretary, Miss Gertrude Clendenen; treasurer, O. C. Hostetler; new member of executive committee, E. L. Stover.

—The Snohomish County (Wash.) Schoolmasters' Club elected Dave Hartz of Maryville. as its president; M. F. Clausen of Lakewood. vice-president; and A. Mykland of East Stanwood as secretary-treasurer.

—Lloyd King, superintendent of Monroe City high school, was elected president of the Northeast Missouri Teachers' Association. Mrs. Ethel Hook of the Kirksville State Teachers' College, and Paul Miller of the Kirksville high school, were chosen vice-presidents. H. G. Swanson of the Teachers' College was chosen secretary-treasurer.

treasurer.

—W. P. Dayton was re-elected president of the Lodi, Calif., Elementary Teachers. J. A. Reams has been elected president of the Schoolmasters' Club of Birmingham, Ala.

—V. K. Froula, principal of the Roosevelt high school at Seattle, was elected president of the Washington State Teachers' Association.

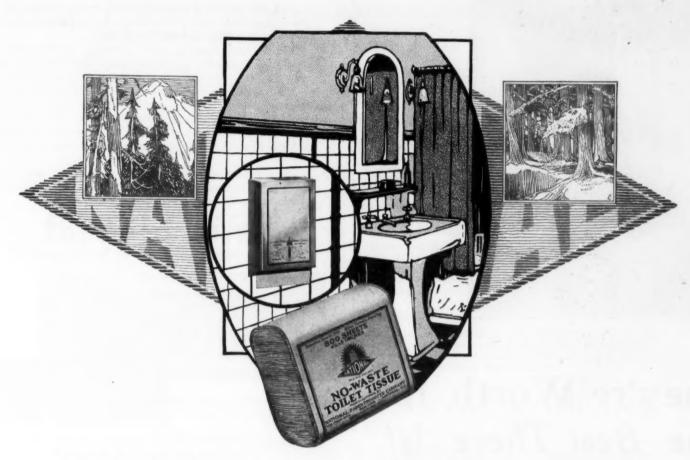
—E. Paul Todd of Eatonville was elected president of the Pierce County unit of the Washington Education Association.

-Superintendent Clarence Vliet of Birming-ham, Michigan, has been elected president of the Oakland County Schoolmen's Club.

—Miss Minnie V. Shanley has recently been appointed assistant superintendent of schools at Jersey City, N. J. Miss Shanley is a recognized authority on school law, finance, taxation, and school procedure.

—Matthew L. Dann, assistant principal of the Richmond Hill high school, New York City, was made the principal to succeed the late Irving

-C. H. Schaefer filed suit in circuit court of —C. H. Schaefer filed suit in circuit court of Springfield, Ill., against Harve Miller, Carl Hess, and J. R. Irwin, school directors of school district No. 27, Salisbury. Schaefer claims that he was hired as superintendent at \$225 per month, but when he reported for duty September 1 he was driven from the school premises. He claims \$3,000



"No-Waste" Really Does Lower Your Maintenance!

National Paper Products for your building

"No-Waste" Toilet Paper
The tissue that is soft, strong
and absorbent. 800-sheet
packages. 125 packages to
fibre cartons. Nickel, green
or white cabinets leased.

"Public Service" Towels
Regular and Junior sizes. 150towel packages; 25 packages
to carton. Sheet metal cabinets in white or olive green.

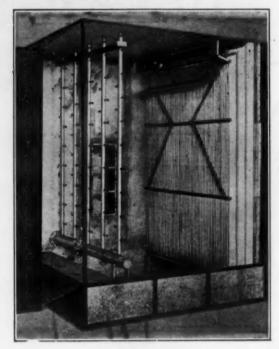
"Toiltex"—in Rolls
1000 counted sheets in a sanitary wrapped package for
the home. Same quality as
"No Waste" and made from
clean spruce wood only.

ACTUAL practice tells the story! Better than we can tell it. Better than any salesman could tell it! Record after record has been brought to our attention where savings—with "No-Waste" and "Public Service" towels—have averaged from 20% to 30%!

"No-Waste" is dispensed only *two* sheets at a time from theft-proof cabinets. Like "Public Service" towels, "No-Waste" is made from clean, virgin spruce pulp only—under model conditions of sanitation.

Standardize on National washroom paper products in your office, building or institution. Thousands have found it economical. Send for literature and samples today. National Paper Products Co., 74 Furnace St., Carthage, N. Y.





Interior of Carrier Air Washer.

They're Worth It-The Best There Is!

When it's the vital question of the health and progress of the young lives dependent on your care during the hours of the school day, the best equipment obtainable is none too good.

Extensive experiments have demonstrated the vital importance of correct heating and ventilating of school buildings—not only in terms of less absence on account of sickness but in more rapid progress in school work.

Carrier Air Washers are a real investment in health and educational efficiency.

Carrier Air Washers

The photograph shows the spray chamber and eliminator plates where the air is actually WASHED. Let us send you the complete description.

CARRIER AIR CONDITIONING COMPANY OF AMERICA

186 Mortimer St.

Buffalo, N. Y.

In Canada—Canadian Blower & Forge Company, Ltd., Kitchener, Ont.

"Open the Windows"

says the American Public Health Association

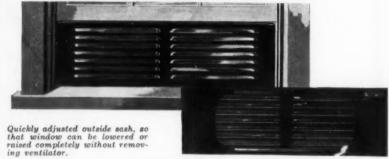
—and the growing trend toward fresh, untreated air for schoolroom ventilation helps to explain the popularity of the Wurldsbest Ventilator.

Ventilation systems now proving inadequate are easily and quickly modernized at astonishingly low cost—by the addition of this remarkable ventilator.

Made of heavy sheet steel, beautifully finished, in a lasting baked enamel—backed by a closely woven copper screen which excludes 80% of street dust and soot—the Wurldsbest Ventilator admits a steady stream of pure, fresh air, yet excludes drafts, rain and snow.

Wurldsbest Ventilators are made in six adjustable sizes with a standard height of $9\frac{1}{2}$ inches. Illustrated literature will be furnished upon request.

Wurldsbest



ALLWEATHER VENTILATOR COMPANY, Inc.
11 Broadway, New York City, N. Y.

Ofthey

CLOTH-LINED

Metal Weatherstrip





The metal tongue fits into the metal channel which is lined with cloth. This makes a perfectly tight contact without making the windows stick as the cloth is sufficiently pliable to take care of any swelling or shrinking of the

A cloth-to-metal contact is the only one yet devised which actually "seals" windows against drafts and dust without making the windows stick. Athev is the only cloth-lined metal weatherstrip made.

For either wood or metal sash

Athey Company

6023 West 65th Street - Chicago, Illinois In Canada: CRESSWELL-McINTOSH, Reg'd 270 Seigneurs St., Montreal, Que.

INDIVIDUAL INSTRUCTION

STUDENT WORKBOOKS AND SELF-TEACHING EXERCISES

FOR GRADES 1 to 12

New Basal and Supplementary materials to help you insure progress and mastery of your curricular essentials by every pupil. Harter Workbooks and individual self-instruction exercises afford a flexible organization of learning material to meet the needs and speeds of each individual in the group.

For the Elementary Grades

Arithmetic—Basal texts for Grades 1 to 3
By Garry Cleveland Myers, Ph.D., Cleveland School of Education.

Beginning Reading-For First Grade By Mary E. Pierce, B.S., Park School of Cleveland, Ohio.

History—Supplementary exercises for Grades 4 to 8 By Charles E. Martz, M.A., and Olive M. Bucks, A.M., Cleveland School of Education.

For Junior and Senior High School

History—Junior and Senior High School By Charles E. Martz, M.A., Cleveland School of

General Science—Junior High School
By Kimber M. Persing, Cleveland High Schools, and
Ellis C. Persing, Cleveland School of Education.

Algebra—A basal text for Junior High School
By Garry Cleveland Myers, Cleveland School of By Garry Education. Elizabeth Thomas, Cleveland Schools. Kimber M. Persing, Cleveland Schools.

Harter Individual Self-Instruction Exercises

Conform strictly to the most recent investigations and concerted opinions of leading educators on the subject of scientifically correct learning and teaching materials. They provide smaller, less expensive units

which can be immediately and easily adapted to the learners' level in courses of study and curricular practices most commonly followed. Specimen copies will be sent to school officials upon request.

THE HARTER SCHOOL SUPPLY COMPANY

EDUCATIONAL PUBLISHERS

CLEVELAND — OHIO

CHICAGO CORRESPONDENCE Don C. Rogers

Colonel Edward B. Ellicott, President of the Chicago Board of Education, died on Tuesday, October 26, following an operation. Out of respect for his memory, Chicago's 500,000 school children were dismissed at noon on the following Friday. Hundreds of teachers, principals and city officials attended the funeral. The flags on all school buildings have been ordered at half mast for thirty days, and there is a movement under way to name an educational center of a half dozen buildings after him. In the minds of the citizenry, Colonel Ellicott's memory will be linked wih his record for School Board harmony, severe financial retrenchment, and a building program of terrific impetus. Thirty-six new school buildings have opened up during narmony, severe mancial retrenchment, and a building program of terrific impetus. Thirty-six new school buildings have opened up during 1926 under his driving leadership—a building program of achievement probably unequaled in the annals of educational history.

the annals of educational history.

A difference of opinion has developed between Superintendent Wm. McAndrew and School Board Architect John C. Christenson, over the relative merits or defects of three-story buildings. The architect says that the 3-story plan permits a reduction in costs per classroom for construction, from \$20,000 to \$15,000. The Superintendent quotes school architects who favor the 2-story type. Questions of administrative convenience, effect of stair climbing on children's hearts, relative placement of shops, assembly hall, and the like entered into the discussion. When the School Board trustees discovered that the architect had drawn the plan for the new three-story type of building, and discovered that the architect had drawn the plan for the new three-story type of building, and had presented it to the Board, without the Superintendent even having seen it, they directed that the Architect and the Superintendent "get together" and present their views later. The whole matter was good natured, but it was just another of those differences of opinion which rises so often in the young science of building construction. building construction.

Hallowe'en came and went-with an astounding freedom from malicious mischief and property destruction. For a month prior to the eventful evening, the Chicago teachers and principals had been pounding on the theme of "fun without damage" and "do nothing mean on Hallowe'en." A string of theatre owners turned over their playhouses for free parties on Saturday morning before Hallowe'en. Tick-ets were allotted to public and private school

turned over their playhouses for free parties on Saturday morning before Hallowe'en. Tickets were allotted to public and private school children. Seventy-six theatres held forth. In each case there was a short program, an address on the meaning of Hallowe'en, followed by appropriate moving pictures.

It seems difficult for old-timers to realize the power of the schools over child nature, when they recall their own mischievousness on Hallowe'en. The reports are not all in yet, but typical ones show that a new spirit of behavior must have pervaded Chicago. One principal reported measurable progress as follows: "Last year the neighborhood windows were soaped and paraffined. Even the school buildings were broken into. This year there was not a sign of a soaped window or a chalk mark in the whole neighborhood." He toured the neighborhood looking for evidences of damage; he found none. He asked fourteen storeowners, if they had seen any windows soaped or other evidence of mischief. Not one had seen a bit of it.

A school man recently ran for high office from Illinois. Hugh S. Magill bolted the Republican camp and ran independently for the United States senate. Mr Magill has been a school man for twenty-five years. He was Superintendent of the Township High School at Princeton, Illinois; previously he taught in the rural schools; he was Field Secretary of the N. E. A; and he is a past President of the Illinois State Teachers' Association. His legislative experience included membership in the Illinois General Assembly. Although polling about 200,000 votes, Mr. Magill ran a poor third.

Some time ago Superintendent McAndrew took official cognizance of the enormous amount of pupil failures. A year and a half ago, there were 33,000 elementary school pupils failed at the end of the semester. At that time, the ratio of non-promotion to double promotion was ten to one. In the meantime, the principals concentrated on the causes and prevention of failure, and the mortality has been sharply reduced. In his annual report, the Su

ample, a school might fail to promote 7% doubly promote 2%, with a consequent 95% standard. The schools were directed roughly to expect to doubly promote approximately as many as are failed.

many as are failed.

Following are several interesting statements by Chicago educators on this subject.

Superintendent McAndrew introduces the question by saying:

"The pertinent question confronts us whether a non-promotion is a failure of the pupil or of the school. Has the child failed to fit the requirements or have the requirements failed to fit him? Burk, Buckingham, and other schoolmasters hold that there are no misfit children. There are misfit courses, misfit text books, misfit methods, but in the nature of things no misfit There are misfit courses, misfit text books, misfit methods, but in the nature of things no misfit children. As well say a man does not fit his clothes rather than say his clothes do not fit him. 'When, therefore, a child is not promoted, the failure usually attributed to him is due to something else.' It may be beyond the power of the school to prevent the failure, but the failure, unavoidable as it may be, is ours."

Listed below are statements by two elementary school principals and two high school principals, advancing reasons for failure.

Miriam Del Banco, principal of the Motley elementary schools says:

"Seventy-five per cent (at least) of the chil-

ley elementary schools says:

"Seventy-five per cent (at least) of the children in the Motley School change every year. Superintendent McAndrew bids us to build on last year. At our school there is no 'last year.' The children come from the surrounding parochial schools, which are crowded to over flowing (126 in a room), where individual assistance is impossible and where the children are taught Polish. The 'English as she is spoke' would be laughable were it not a case for sorrow and regret. Imagine children who tell you 'De man de girl a flower gave in her hand,' 'Nobody else ain't,' 'Hee trun me de steps down,' or 'I eat myself a can.' Imagine these same children given History to read, from which I quote:

These evils 'were undermining the foundation of the government, causing sectional differences of opinion that were to prove irreconcilable,

of opinion that were to prove irreconcilable, and were sapping the strength of the nation."

Children come to us 14, 15 or 16 years old, who do not know the multiplication table, whose (Concluded on Page 124)

An Interesting School Board Convention

The Illinois Delegates Meet at Belleville

When president Louis J. Thiele of the Illinois School Board Association, sent out his announce-

When president Louis J. Thiele of the Illinois School Board Association, sent out his announcement asking school board members to attend the Convention, October 28th and 29th, to be held at Belleville, he said:

"Approximately forty-five thousand earnest, sincere men and women are serving in the interest of the children of the state as school board members, all of them handicapped in the efficient performance of the duty they have assumed by their inability to work jointly with each other.

Wonderful developments have resulted from "Wonderful developments have resulted from the organized efforts of hog, sheep, horse, and cattle breeders. Almost without exception we find the industries and professions organized for greater efficiency and profit. Why should we refuse to apply the same well-established and proven principle to the education and development of our most precious asset, the children of the State?

"Surely no one will attempt to argue the

"Surely no one will attempt to argue the point and so you, dear friend, who reads this missive, what will you do about it? If a school board member, will you not immediately urge your associates to vote funds necessary to send

a delegate? "The leaders of this movement are on the same level with you. They, like you, are contributing their service in the interests of the children; they wish to serve better; so do you together we can make the money go further, we can equalize taxation and educational opportunity—in short we can cope with our prob-

tunity—in short, we can cope with our prob-lems more successfully."

The associated school boards of Illinois rotate their annual meetings. They locate them in a different locality each year. The benefits so derived from these shifts are apparent. The message is thus carried to different sections, affording an opportunity to school officers to attend. The man or woman that cannot afford to travel three hundred miles to attend a school board convention may be able to travel fifty miles. And yet there were many delegates at the Illinois meeting who had travelled long dis-

the Illinois meeting who had travelled long distances to attend.

This year the conference of the organization known as the Illinois State School Board Association was held at Belleville. This city is located some fifteen miles east of St. Louis, Mo.

The features of the convention consisted of discussions on the rural school problem, school legislation, and the parent-teachers' movement. William McAndrew, Chicago's brilliant school superintendent, was the star attraction at the evening dinner meeting.

The opening session brought out the fact that the questions which concern the school officials

The opening session brought out the fact that the questions which concern the school officials of the towns and villages of Illinois are similar to those met with in other states. They relate at this time in the main to matters of taxation and adequate school support, the struggle to round out a complete school term, and the effort to secure the highest degree of efficiency in the school

The keynote of the convention was sounded by The keynote of the convention was sounded by President Louis J. Thiele when he responded to the address of welcome given by Herman G. Wangelin, president of the Belleville board of education. Mr. Thiele pointed out the value of a progressive attitude in school administrative effort and the beneficent influences that flow from conferences such as the convention was providing.

providing.

The Parent-Teacher Movement The first formal address was delivered by Mrs. Walter H. Buhlig, president of the Illinois Parent-Teachers' Association. Mrs. Buhlig explained the parent-teachers' movement in its general aspects, and then proceeded to cite specific instances where the utility of the movement had been conclusively demonstrated. She captured the audience with the refreshing manner of her presentation.

The idea of establishing a cooperative atti-tude between the mother of a child and the teacher, the speaker held, is fundamentally sound. An organization can do much to uphold school policies, to create a wholesome commu-nity sentiment in the cause of education. Such organizations must not become meddlers, but stand in a helpful attitude towards the school authorities and support them in every laudable and feasible undertaking.

Mrs. Buhlig's address closed the brief fore-noon session which had been opened somewhat late owing to a change of meeting place from the Masonic Temple to the Elks Club. The delegates remained during the noon hour, the luncheon being served in the clubhouse.

The afternoon session was conducted under the auspices of the city superintendents. Dr. Frank L. Wright, head of the department of education of the Washington University of St. Louis, was the principal speaker. He discussed the "Tendencies of Modern Education."

The Rural School Problem

The Rural School Problem
The second session of the school board convention was opened by Dr. W. T. Dearing of Oakland, Indiana. He pointed out that agriculture supplies 60 per cent of the raw materials that enter into the industries. Without these all industry would come to a dead stop. Thereculture supplies 60 per cent of the raw materials that enter into the industries. Without these all industry would come to a dead stop. Therefore, rural education concerns ultimately the cities as well as the country. In fact, it concerns the stability and well-being of an entire reation. nation.

In any discussion on the rural school problem equal educational opportunity is promised. Yet this promise is largely a lie, the speaker held. The cities have school palaces, the country has school hovels. Public funds are never distributed in a manner to afford equal educational opportunity, as between the rural and the urban children.

The speaker held that the teacher was ninety per cent of the efficiency of the school. The other ten per cent, he said, was reflected in the shack that is dignified by the name of schoolhouse. But, the ninety per cent fraction of the school, which implies the teacher, is far from all that it chould be from all that it should be. Teachers are sent into the rural districts that have neither an understanding or appreciation of rural life, its conditions and its needs. They are frequently ignorant of the most commonplace things in country life, and expose themselves to the ridicular of the informed former while. country life, and expose themselves cule of the informed farmer child.

What is needed, more than anything else, is rural minded teachers, sympathetic and enthusiastic for things that make for a more efficient, more useful, and a happier rural life. The city-minded maiden who comes merely with a smattering of textbook knowledge, and without an appreciation of what rural life in its economic, civic, and social phases means, is a failure as a teacher.

Dr. Dearing closed with the plea for a more liberal state school fund, a more equitable distri-bution of the same, and for higher standards in the teaching service that is supplied to the country schools.

School Support and Taxation

Mr. Watson, who is employed as tax expert for the several agricultural associations of the state, consented to take the place of a speaker state, consented to take the place of a speaker who had failed to make his appearance. He discussed the farmer tax dollar. From 40 to 60 per cent of this dollar, he maintained, went for the schools. The city tax dollar contributes a lesser amount. The farmer's tax dollar also contributes a larger proportion than does the city tax dollar towards the maintenance of great reads.

The problem of school finance centers wholly upon an equitable distribution of the tax dollar upon an equitable distribution of the tax dollar or, to be more specific, upon the state funds. The burden, if properly distributed, would not oppress any one. The weakness lies in a system of taxation that is neither uniform, equitable, or efficient. Hence, there are districts, many of them, that are too meagerly supported.

Naturally wealth is unevenly distributed, which results in equally uneven school support. The school support, therefore, must be distributed so as to cover the disproportionate needs in order to secure an equal educational oppor-tunity for all children in all districts, rich or

poor, large or small. Mr. Watson demons Watson demonstrated that the wealth of Mr. Watson demonstrated that the wealth of Illinois was not properly taxed. The tangible property is assessed at something like four billion dollars, while its actual value exceeds the forty billion dollar mark. The present taxing system has broken down. It needs revision and southern the property and equisystem has broken down. It needs revision and reconstruction upon a more thorough and equitable basis. An honest appraisal of all wealth, tangible and intangible, together with a uniform tax rate efficiently administered and honestly collected will provide an ample school fund, permit the establishment of consolidated schools, and the maintenance of an efficient teaching staff.

Defines American Education

At the evening gathering Supt. William McAndrew of the Chicago schools spoke on "American Education" and the conception which the founders of the Republic had in mind when they established the public school system.

The following officers were re-elected: Presi-

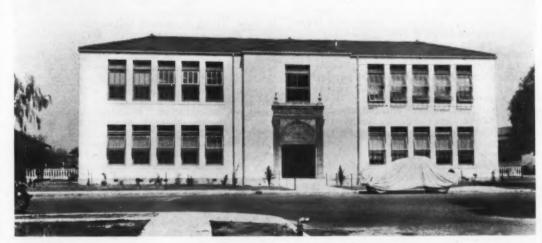
The following officers were re-elected: President, Louis J. Thiele, Glen Ellyn. Secretary-Treasurer, Mrs. G. A. Stover, Oak Park.

The membership fee is \$10 for boards of education and \$5 for boards of school directors. Some three hundred members were in attendance.

—Altoona, Pa. The voters of the school district have approved a loan of two million dollars. The vote was 6,938 votes for and 1,563 against the proposition. Much of the success of the election was attributed to the publicity work of the school board in bringing the need of a bond issue before the people. In connection with the issue before the people. In connection with the publicity campaign, the board issued a small pamphlet entitled "The A-B-C of the Two Million Dollar School Loan." The pamphlet exhibited financial conditions of the school district by comparison.

—More than 4,000 persons attended the dedication of the new East high school at Youngstown, Ohio. Supt. J. J. Richeson, President L. U. Hulin of the board of education, and Prin. J. W. Smith, and William Rowney, chairman of the building committee, were the speakers.

—The "Zeitschrift für Cummunalwitschaft" for July, published in Berlin, Germany, contains a translation of W. S. Deffenbaugh's recent article on the "City Schools of the United States." Mr. Deffenbaugh is the expert connected with the United States bureau of education. His description of the administration of the American schools is of special interest in the German Republic just now where the reform in school government is being developed.



SCHOOL BUILDING IN TWO CITIES.

It is most unusual when a school teacher site at her desk in one town and her pupils sit in another. This, however, is the case of the State Street School located in South Gate and Huntington Park, Calif., where two of the teachers have their desks in South Gate while the children in the same room are in Hunting Park. The dividing line of the two cities separates the teachers from the pupils. About one-fourth of the building is in Huntington Park while the remaining three-fourths is in South Gate. As it happens both parts are in the same district, the Huntington Park school district,

Heavily marked up, then washed off — 240 times — the Barreled Sunlight with which this panel was painted still retained its lustrous, unbroken white finish!





INSTRUCT OFFICE G. E. GORDON, MCB. RES Broadvas NEW YORK, N. Y. Talapinona Wurth page

U. S. Gutta Percha Paint Co., Providence. R. I.

Gentlemen:

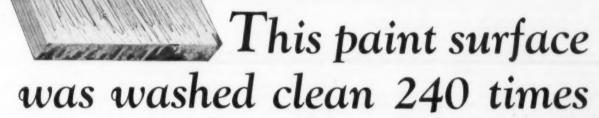
We believe you will be very much interested to see the manner in which we washed BARRELED SUNLIGHT at a recent exhibit.

This board was treated as shown, by marking it up thoroughly with pencils and then scrubbing it off by direct application of "WYANDOTTE" Detergent. The board was washed not less than forty times a day for the six days during the show and you will note the splendid condition and color of the paint.

You can readily see that we abused the paint more in one demonstration than it would be abused by the consumer in years.

Very truly yours.

Jd M. Geodiow Sales Department.



. . . an amazing proof of the durability of Barreled Sunlight

A TEST—and a proof—that comes right home to every school board—every purchasing agent!

The letter and illustration above plainly show why hundreds of fine school interiors are now painted with Barreled Sunlight. A lustrous finish so satin-smooth it washes like tile—yet so durable that frequent washings will not injure it.

Moreover, Barreled Sunlight is as handsome as the finest enamel, yet costs less, is easy to apply, and requires fewer coats.

Made in three different finishes—Gloss, Semi-Gloss, and Flat—Barreled Sunlight can be used on walls, woodwork and ceilings throughout the school. It is easy to tint with ordinary oil colors.

Sold in drums and cans. Where more than one coat is required, use Barreled Sunlight Undercoat first.

There is a local distributor of Barreled Sunlight in all principal cities.

See coupon below.

U. S. GUTTA PERCHA PAINT CO.

Factory and Main Offices

44 DUDLEY STREET, PROVIDENCE, R. I.

New York—350 Madison Ave. Chicago—659 Washington Blvd.
San Francisco—156 Eddy Street

Distributors in all principal cities

Retailed by over 7000 dealers

Barreled Sunlight

The handsome finish of

The handsome finish of Barreled Sunlight has no pores to hold dirt embedded. Occasional washing removes all

surface dust or grime. Years of clean beauty without repainting!

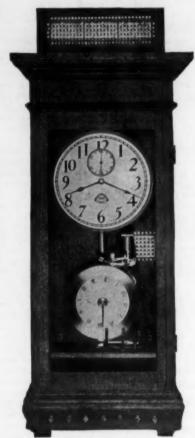


THE RICE PROCESS WHITE

U. S. GUTTA PERCHA PAINT CO. 44 Dudley Street, Providence, R. I.

Please send me descriptive literature and sample panel painted with Barreled Sunlight. I am interested in the finish checked here—

	Gloss	1	()		1	S	es	m	á	.(31	lo	9	8	()		1	P	le	t	()			
Name		į.																								 . 4		*		
Street					,										,								,		 				+	
City																	,	0		. 6										



FREE ENGINEERING SERVICE CATALOGUE ON REQUEST

THE PIONEERS OF ELECTRIC TIME AND PROGRAM CLOCKS

Our Aim For Nearly Half Century TO SUPPLY

Educational Institutions with the Best Equipment Obtainable

RECOGNIZED BY ELECTRICAL AND MECHAN-ICAL ENGINEERS THROUGHOUT THE COUN-TRY AS THE HIGHEST QUALITY, SIMPLEST AND MOST ECONOMICAL EQUIPMENT PRO-DUCED.

One Quality_One Price_One Policy The Best Costs No More

The Landis Engineering & Mfg. Co.

WAYNESBORO, PENNA.

Concluded from Page 121)

English is as above quoted, who have never sung save by rote, who have never drawn and whose knowledge of geography and U. S. history is nil.

Numbers of our children go, at certain times of the day, to lower rooms, to try to 'catch up,' There they must recite, if no one else in the class does. We have found this helpful in some cases. But children 15 and 16 years old feel embarrassed to go to a second or third grade room to recite with the little tots. Someone advised, start a room for children who are retarded; but there are too many. We would have to have half the school thus organized.

We have struggled along like this for years. Perhaps someone will know a relief measure. We get exactly the same tests that are given in Rogers Park schools and other schools in good residential districts. To say that the process is discouraging to us is a mild way of putting it. But the conditions I have described are, in a great measure, responsible for pupil failures.

it. But the conditions I have described are, in a great measure, responsible for pupil failures. Stoddard, in his 'Revolt Against Civilization' put the Pole at the foot of his column of racial development. Our children are 95 per cent Polish. They certainly are slow; which fact does not help us."

Frank W. Stahl, principal of Bowen High School, states:

School, states:

"I made a report on last semester's failures and we found the causes various and interlocking. We had 572 subject failures—absence figured alone in 48 cases; as a contributing cause in 227 cases. Inability (low I. Q.) alone in 39 cases; coupled with absence, lack of home study, etc. in 217 cases. Laziness, indifference, lack of study, inattention, in 289 cases. Whether these are legitimate reasons or not, I can't say. They are reasons."

J. Katherine Cutler, principal of the Shepard elementary school says:

J. Katherine Cutler, principal of the Shepard elementary school says:

"Among legitimate reasons for pupils' failures, I would list the following:

1. Low mentality: Pupils with an I. Q. of 80 or less cannot grasp the work as the normal child is able to do. In the eight years many of them will fall from one to two behind, completing the elementary school in nine or ten years. There are subnormals in every school of still lower mentality who must remain in the regular grades; failures here are inevitable

without a special minimum course for such pupils which may be followed through the suc-

cessive grades.

2. Language handicap: In foreign districts, 2. Language handicap: In foreign districts, many failures are due to the lack of knowledge of English in the pupils themselves and in the home. They are really receiving their education in a language foreign to them and the

home.
3. Illiterate home background: cases the children themselves are the only ones in the home who can read and write either English or any other language. They miss all the educational advantages that are the part of

the good American home.

4. Long continued ill health: A child who loses a month or more through illness returning in a weakened condition, is hardly strong enough to carry the daily work, and often quite unable to regain the lost ground.

5. Frequent change of school: Many failures are caused by families moving sometimes two or three times in a year, with time lost through absence, and while trying to become adjusted to the new surroundings and conditions.

6. Entering the grade after the beginning of the grade after the grade afte

the semester: This is especially the case in the first grade."

David M. Davidson, who succeeded James E. Armstrong (retired under the emeritus rule), as principal of Englewood High School, makes

as principal of Englewood rings School, makes a rather elaborate statement as follows:

"Causes on the Pupils' Side!

Lack of daily preparation; Absence; Work outside of school; Too many social gatherings; fardiness and Laziness loomed large among the reasons given for failure. But the school has machinery for correction of these. If they have not been corrected, it is the teacher's error.

Bad health, not suited to the subject, course taken a mistake, late start in class, dislike of school are heard as minor reasons for the catas-

Lack of intelligence and experience are emphasized too greatly as reasons for pupil's failures. The school will attempt a classification of its pupils in the next semester. But one has only to look at the surface to see that this cause covers only a small fraction of the 6% or 8% permissible.

Causes on the Teachers' Side:

Against all this it must be said that failures are often due to our own inexperience as teachers. We hammer along with traditional methods and will not experiment with new suggestions. We rely on the experience of former years to carry us through the 45 minute period instead of preparing each lesson so that it cannot fail to vitalize that particularly dull pupil who is the problem of this year's class. We go through the motions of teaching a subject with which we are unfamiliar—sometimes because the exigencies of a school program have handed the subject to us and sometimes because we are deceiving ourselves into a belief that we understand what we are teaching. Too often we are deceiving ourselves into a belief that we understand what we are teaching. Too often we let pupils set the standard during the term because that is easy for us but on 'marking day' we trot out an imaginary standard which is all our own. We fail to set definite objectives. 'These goals you must reach' 'These habits you must form!' 'Upon such subject matter you must never stumble!'

The success or failure of our pupils is the crucial test of the efficiency of our teaching. We cannot delay to give attention to every detail of this problem."

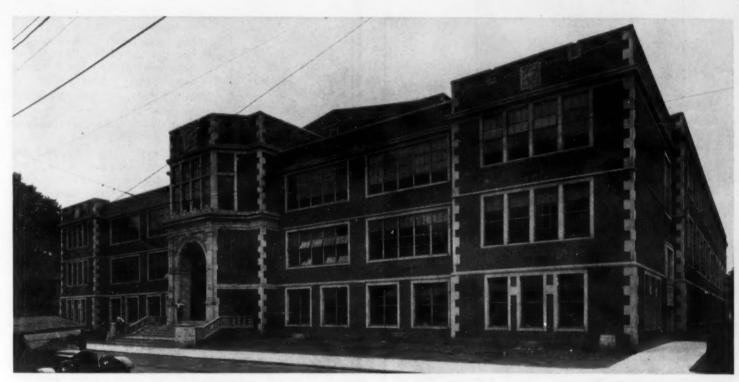
—In the belief that modern American high schools are not safe institutions for adolescent boys and girls, J. R. Miles, a rancher living near San Francisco, accepted a jail sentence rather than to accede to a court order that he compel his children to go to school. The father had previously withdrawn his two sons from the Oakland high school with the declaration that they were better off outside. The school authorities caused his arrest. The court has ordered that the father remain in jail until the boys go back to school. Miles said, "The jail and I will grow old together."

—The school children of Revere Mass will -In the belief that modern American high

and I will grow old together."

—The school children of Revere, Mass., will make their own ink in the future. With the large enrollment in the schools, ink consumption has been heavy. Under the direction of the chemistry instructor, the pupils will make ink from a formula furnished by the former, thus saving the school department considerable expense.

Healoven The Unit System of Heating and Ventilating



NEW SENIOR-JUNIOR HIGH SCHOOL BUILDING

Architects Warne, Tucker & Patteson, Charleston, W. Va. A. G. Higginbotham & Co., Charleston, W. Va.

CHARLESTON, W. VA.

Heating and Plumbing Contractor West Virginia Heating & Plumbing Co., Charleston, W. Va.

THE FINEST HIGH SCHOOL IN WEST VIRGINIA is Equipped With Seventy BUCKEYE Heatovents

This large new High School Building, which was completed in September, is not only the finest school building but the best equipped building in that part of the country.

We are justly proud of the fact that we furnished all of the ventilating equipment for this building, same consisting of seventy (70) Buckeye Heatovents and seven (7) Buckeye Fans.

All of our products are fully guaranteed to give the results expected and are backed by over fifty (50) years experience in the proper means of heating and ventilating Schools and other Public Buildings.

The Heatovent is very flexible and is adaptable to nearly every type or style of building. It is easy to install, simple to operate, requires little attention and is dependable at all times.

THE BUCKEYE BLOWER CO. COLUMBUS, OHIO

BRANCH OFFICES:

- 216 Bona Allen Bldg., Atlanta, Ga. 2126 Edmondson Ave., Baltimore, Md. 321 Jackson Bldg., Buffalo, N. Y. 301 Rose Building, Cleveland, Ohio. 401 Transportation Bldg., Chicago, Ill.

- 1226 California St., Denver, Colo. 3115 N. Central Ave., Indianapolis, Ind. 1011 Pioneer Trust Co. Bldg., Kansas City, Mo. 400 Penobscot Bldg., Detroit, Mich. 1400 Broadway, New York, N. Y.
- 416 Essex Bldg., Minneapolis, Minn.
 709 Columbia Bank Building, Pittsburgh, Pa. Fals Building, Seattle, Washington.
 307 Union Bldg., Syracuse, N. Y.
 1101 Realty Building, Youngstown, Ohio.

The Best System For Schools





THE INCOMPARABLE

IS THE SUPPLY CONTROL OF

of

NIEDECKEN SHOWERS

The Mixer can be set to a fixed maximum temperature, preventing waste of hot water.

When making repairs, which are seldom required, the only tool needed to take the Mixer apart is a screw driver and it can not be re-assembled in a wrong manner; the few parts subject to wear are easily replaced, even after years of use, making the Niedecken Mixer Everlasting.

Write for Bulletin S.B.15X

HOFFMANN & BILLINGS MFG. CO.





Patented Anti-freezing

Murdock

Outdoor Bubble Font made of

> **BRONZE BRASS** IRON

For ages these three metals have been used in outdoor service. They are everywhere accepted because of their ability to withstand exposure and

Lasts a Lifetime

School Yards -- Playgrounds

Write for Booklet "What to Know About Outdoor Drinking Fountains."

Also dependable, long life Drinking Fountains and Bubbler Heads for School Buildings.

THE MURDOCK MFG. & SUPPLY CO. CINCINNATI, OHIO

Makers of Outdoor Water Devices Since 1853

latrous

Duojet Closets and Flush Valves

Non-Clogging—Water-Saving—Sanitary



SANITATION. Clogging and overflowing prevented; repair bills avoided. The wall type, being clear of the floor, greatly aids in cleansing the bathroom. POSITIVE, SPEEDY AC-TION. Duojet action instantly empties the bowl; a thorough flush, at a great saving in the quantity of water consumed.

ECONOMICAL VALVE ACTION. The Watrous Flush Valve delivers the exact quantity of water required. When used with the Watrous Duojet Closet it gives maximum effectiveness to the water-saving design of the bowl.

ECONOMY IN INSTALLATION. The Watrous wall type avoids the need of closet connections in floors. The Watrous line includes several bowl-models in which the flushing is effected by automatic seat-action. Among these is the "Juvenile" type, with a bowl of less than normal height, suitable for small children.

Write for full details on the Watrous Flush Valve and Duojet Closets.

PLUMBING DIVISION
Watrous Flush Valves—Duojet Closets—Self-Closing Basin
Cocks—Combination Lavatory Fixtures—Pop-Up Wastes
—Liquid Soap Fixtures—Etc.

THE IMPERIAL BRASS MFG. CO.

521 South Racine Avenue

CHICAGO

What about your Swimming Pool?

Make Sure That It Is Free From All Contaminating Germs and Clean as a Mountain Stream

The ELECTROZONE System Provides These Conditions

The use of Ozone is most suitable for water purification, since it is only a more active form of ordinary oxygen, and in doing its work of purification adds no residue of any chemical to the water. It will also eliminate all odor or taste of chlorine which may have been used.

The Electrozone Water Sterilizer is manufactured exclusively by The Air Conditioning and Engineering Co., St. Louis, Mo., under license agreement by the General Electric Co.

Address Inquiries to

The Air Conditioning & Engineering Co.

Main Office and Factory

2916 S. Jefferson Ave.

St. Louis, Mo.



By Henry C. Pearson. Paper, 56 pages. Published by the American Book Co., New York, Chicago.

This notebook is intended to be an aid to individual study in spelling in grades two to six. It is divided into four parts: Part I, 23 pages of trial tests to find out what words need study; Part II, 21 pages of dictation tests of new words, to find out how well the words needing study have been learned, and to provide a second test of words that have been spelled correctly by mere chance in the trial test; Part III, a final test of words taught and tested during a long interval, and Part IV, troublesome words, or words missed in the final tests, words not yet conquered, and a review of troublesome words and such other words as the pupil frequently misspells in written work.

The booklet also provides space for a list of This notebook is intended to be an aid to in-

The booklet also provides space for a list of supplementary words at the end of each half grade, which furnish additional material for Part I. Words misspelled by many pupils in written exercises of any kind are to be added

by direction of the teacher.
Chicago Practice Tests for Mastery of English
By Sophia C. Camenish. Price, one cent per
sheet, or \$0.80 per hundred. Published by the
English Journal, Chicago, Ill.

It is recognized that the burden of the English teacher today is so great as to be discouraging. Every teacher is faced with the low standard of achievement of a group at the beginning of a new epoch—the first year of the junior or senior high school or college. A solution of the problem lies in the adoption of a definite procedure involving diagnosis, drill work, and teaching for mastery of the subject.

The present tests are adapted for English classes in the ninth grade and the scheme work in sentence recognition, possessives, grammar and usage, general mechanics, punctuation, and simple rhetoric of the sentence. The complete set of exercises covers practically all items given It is recognized that the burden of the English

emphasis in courses worked out by students of the essential problems.

The tests have been so planned that the teacher may use them in her own way. The procedure outlined is simple, accurate, and timesaving. It includes instruction sheets, correction sheets, parallel and diagnostic tests, practice and check-up tests. The procedure may also be used in a briefer form for discovery of, and drill upon, points taught in the lower grades which have been partly forgotten; or, simpler yet, pupils who show weaknesses on points studied earlier, may be assigned outside work with the sheets. Such checking in each semester will result in permanent habits of correctness.

will result in permanent habits of correctness.

The Gay Kitchen

By James Woodward Sherman. Cloth, 143
pages, illustrated. Published by Little, Brown & Co., Boston.

& Co., Boston.

Here is a cheerful children's book. The teakettle sings, the table walks, the coal scuttle gets chesty, feather duster flies about, and the various kitchen utensils get into an argument. in fact, everything from the rolling pin to the pepper box becomes animated and lends interest and amusement to the little stories that the outbox tells so well

author tells so well.

The text is simple and printed in large type

The text is simple and printed in large type. The illustrations are most attractive. In vocabulary, interest, and make-up the book is as nearly ideal for first and second grades as a supplementary book can be made.

New Stories

By Marjorie Hardy. Cloth, 220 pages, illustrated. Published by The Wheeler Publishing Co., Chicago, Ill.

This story book is intended to serve as a second reader. The stories are original and were specially written for schoolroom use. They deal with interesting phases of community life. Children exchange letters with each other and tell about things at home, on the farm, in the village. Dogs and horses enter the scene. Then there are some journeys on the railroad in which delightful travel incidents are experienced. Mountains and valleys and rivers are seen; skyscrapers, street traffic, etc., etc., are shown. shown.

The latter part of the book is devoted to wild animal stories. The illustrations which are produced in colors add materially to the attractiveness of the book.

Swiss Family Robinson
Abridged edition. By J. C. Allen. Cloth, price, \$0.65. Longmans, Green & Co., New York, N. Y.

The story of the Swiss Family Robinson is rightly one of the children's classics in English literature. The vitality of the book is remarkable, especially in view of the stilted and labored style of the early translations.

what middle-aged man does not remember fondly his first acquaintance with the family of six who were wrecked upon an isolated island in the vicinity of southern China; how they used the natural advantages of the island, how they made a rude but comfortable home, secured sufficient food to supply all their immediate physical needs, and eventually converted their island home into a thing of beauty and capable of abundant food supplies. And what vague fears were not allayed in each youthful reader's mind when he finally came to the chapter in which the family was rescued by a passing ship and returned to their own country.

The present edition has been considerably abbreviated and revised so that it can be read in a reasonable time. The text of the original translation has been modified to provide a model of simple prose for young readers.

Style Book for Writers and Editors

Style Book for Writers and Editors C. O. Sylvester Mawson. Octavo, cloth, 213 pages. Price, \$1.50, net. Thos. Y. Crowell & Co., New York.

The editor, or copy reader, who must daily struggle with the errors, idiosyncrasies, incon-sistencies, and downright stupidness of "copy" which comes from writers, has a blessing for the author of a book like the present. And if he could compel all contributors and writers to study the book and make its plain rules a part of their working equipment, of their very selves, his annoyances and anxieties would be cut to a minimum.

The present book is comprehensive and entirely acceptable for the general writer and the editorial worker. The latter will want to supplement it with his own office style and will perhaps take issue with some matters of detail. The book supplies thousands of facts and a multitude of principles of writing and printing not found in dictionaries or general reference not found in dictionaries or general reference

MPROVED PANICEXIT LOCKS

Smith's Improved Exit Locks Are the Best Locks Made for Schools, Theatres, and Industrial Plants



No. 70-Exit Only.



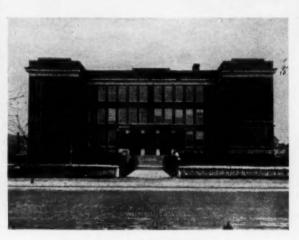
No. 736-Handle and Cvl.

The GRAVITY Principle

Our Gravity Exit Lock is the most perfect Me-chanical Expression of the Exit Lock Idea that has ever been developed. It is the Exit Lock with Two Locks and without a single Spring in either Lock.

The LEVER Principle

It is the Exit Lock with Lever Action at the Action at Lever Action at Cross-bar to open the Door. There is No Spring Action and No Spring Tension. It is the One Exit Lock the One Exit Local of Unfailing Operation, built on Everlasting built on Everlasting Principles for Everlast-



One of the 34 Cleveland Schools recently equipped with "Smith's Improved" Panic Exit Locks

The Steffens-Amberg Co. New Jersey Newark.

WRITE CATALOG

works and as such is valuable in any school

library.

Heroes of the Air

By Chelsea Fraser. By Chelsea Fraser. Cloth bound, 427 pages.
Published by Thomas Y. Crowell Company,
New York.

The art of flying in the air has gripped the fancy of man. Aeroplane travel is coming more and more into vogue. The transport of mail matter by air service has become an accepted fact. In the old world, the transport of passengers and freight is pursued on schedule time.

of passengers and freight is pursued on schedule time.

The author describes the more remarkable achievements in the field of aeronautics in a most facinating way. There are the flights across the Atlantic, the non-stop flights across the continent, the first flight around the world, and the leap to the North Pole.

Principles of School Supply Management
Taylor, R. B. New York City, Bureau of Publications, Teachers' College, Columbia University. 1926. 145 pages.

versity, 1926. 145 pages. School superintendents and assistant super intendents in charge of business affairs as well as others who are responsible for the purchase, as others who are responsible for the purchase, storage, distribution, payment and accounting for school supplies will find practical suggestions in Dr. Taylor's book.

According to the author, in contrast with equipment, school supplies constitute:

a. Materials consumed or destroyed when needs.

used;

used;
b. Materials, the normal life of which, when in use, is not more than two years;
c. Fragile articles frequently broken with customary usage and small articles frequently lost under similar circumstances.
A functional classification is attempted of all major items of supply. This should have been done in much more detail for a maximum

Recommendations are based upon an analysis of supply management in 16 cities of from 15,000 to 130,000 population and an analysis of supply management in 14 large institutions somewhat analogous to public school systems. The following were some of the business organizations studied at first hand: Corn Ex-

change and Chatam and Phenix Banks, the New York Life and Metropolitan Life Insurance Companies, the American Express Company, Western Union, New York Central Railway, United Cigar Stores and the New York Post Office. The smallest corporation studied sup-Office. The smallest corporation studied supplied 14 branches while the largest was responsible for the purchase and distribution of supplies for more than 30,000 branch offices. Several representative jobbing houses dealing in school supplies were also visited but little

Following are representative conclusions reached: Practically all supplies should be purchased on a basis of competitive bids. A supply department should be created when the annual conclusions department should be created when the annual supply purchase reaches approximately \$25,000. The practice of distributing supplies from a central storeroom to the respective buildings monthly, or "as needed" involves an excessive waste of time and energy. Business organizations in contrast to school systems are able to pay bills in time to secure discounts. There are 51 such major conclusions in the back re 51 such major conclusions in the back.

A plan for the management of school supplies

A plan for the management of school supplies is proposed. The plan involves a discussion of standarized supply list, annual estimates of needs, annual budget estimates for supplies, placing purchase orders, supplies, apportionment, economy in utilization and school supply accounting accounting.

An Outline for Dictionary Study Paper. Twelve Pages. Published by G. & C. Merriam Co., Springfield, Mass.

It is impossible to do effective work without the necessary tools. The most important working tool of the English student is the dictionary.

The present outline is based on Webster's collegiate dictionary and the material tells how to

use the dictionary. A study of the exercises shows the practical value of providing the student with a copy for constant use. It contains information on the sources of words, pronunciation, spelling, idiomatic phrases, synonyms, tion, spelling, idiomatic phrases, synonyms, grammatical information, capitalization, abbreviations, and punctuation.

A Collection of Chemical Lecture Experiments
By H. F. Davison. Cloth, 139 pages. Illustrated. Price, \$2.50. Published by The Chemi-

cal Catalog Co., Inc., 19 W. 24th Street, New

cal Catalog Co., Inc., 19 W. 24th Street, New York City.

This work is the outcome of the author's 25 years' experience as instructor and lecturer and provides 70 experiments—establishing important chemical principles—not usually found in textbooks. The introduction is a very pertinent discussion of the demonstration and the experiment of teaching methods. ment of teaching methods.

A Second Book in Algebra
By Howard Bates Baker. Cloth, 365 pages.
Published by D. Appleton & Co., New York

An advanced text for secondary school use. It opens with the laws of exponents and carries the work through the quadratics to the binomial theorem. Much practical work for prospective engineers is included in the problems.

engineers is included in the problems.

History of Christian Education
Pierre J. Marigne. Vol. II. Cloth, octavo.
257 pages. Price, \$3. The Fordham University
Press, New York, N. Y.
This book is the second volume of a threebook series and takes up the transition period
in education from the fourteenth to the
eighteenth centuries. The author holds to the
idea that the history of education is more than
a history of schools, of pedagogical principles,
and of educational thinkers. He believes rather
that it should involve much of the cultural,
political, and social setting, with some consideration of the educative value of the various
agencies which contributed to the educational
system of each period and of each nation. He
therefore traces the history of religious and
general education in Europe in the light of the
great upheavals and changes of the troubled
centuries from the close of the Middle Ages to
about the year 1695. Ample bibliographies and
references are appended to each chapter.

Elements of Agriculture

Elements of Agriculture
G. F. Warren. Cloth, octavo; 570 pages. The
Macmillan Co., New York, N. Y.
This text for advanced high school and vocational classes is a revision of a popular work first issued in 1909. The work outlined is rather comprehensive. Ample material is provided for problems and projects and for laboratory work.

(Concluded on Page 181)

New Mop & Mop Stick Idea

NOTE CRUBBING PAD FOR RUBBING



Satisfaction a Certainty

ETAL part of mopstick is one-piece bronze casting: rustproof; and built to last a lifetime.

All parts interchangeable.

No wires, chains, metal parts readily broken, or to mar and scratch baseboards, drag on floor or interfere with wringing of mop.

Mop head made of special twisted long staple cotton yarn: more efficient and enduring than thread mop or softer cotton mop. Also, mop head se-curely sewed onto T-shaped frame, leaving soft cushion sides and greater mopping surface. See illustration here: equally superior in every other detail as well.

PALMER CO.

Manufacturers for the Jobber Milwaukee, U.S.A.

Request for 30 Day Free Trial





Write for Literature

WRITE now for de-scriptive leaslet on Palmer's Mop and Mop Stick: also for Complete New Palmer Catalog Of Ail Palmer Products:

Blackhoard Frasers Blackboard Erasers
Paper Towel Fixtures
Toilet Paper Fixtures
School Supplies
Liquid Soap Tank Systems
Floor Dressing
Concrete Hardener
Sanitary Dusters
Janitor Sanitary
School Supplies

One of the 1393 schools in the United States equipped with G&G Telescopic Hoists is Spring Lake Public School, Spring Lake, New Jersey. (Ernest A. Arend, Architect.) Note how the Overhead Crane of this G&G Model B Hoist eliminates re-handling cans on

Ash Removal Costs Are Low Here

AT Spring Lake Public School, Spring Lake, New Jersey, ash removal is speedy, efficient and economical, for a G&G Model B Telescopic Hoist makes it so.

Observe the overhead crane of this type of G&G Hoist, which eliminates re-handling of ashes at the street level, thus saving time and labor.

For every school ash removal problem, there is a model G&G Telescopic Hoist that will serve efficiently and economically.

Our experience in equipping 1393 schools with G&G Ash Removal Equipment is at your disposal. We are always glad to consult with school officials and architects on ash removal problems.

GILLIS & GEOGHEGAN

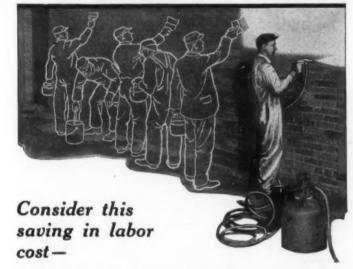
1866-1926

Sixty Years Of Service 551 Broadway, New York



IEIESCOPIC HOIST with Automatic Gear Shifting Brake Device and Silencer

5 Painters' Work - 1 Man Cost



One DeVilbiss spray operator does the work of 4 to 5 handbrushers. This is the average economy you are able to effect in doing your school painting with the DeVilbiss Spraypainting System.

Additional advantages painting the DeVilbiss way are: a more thorough and uniform coating; a coating with the hiding power of two brushed coats; less scaffolding; no spattering and dripping of paint. Let us tell you more about this modern, low cost method of painting. Address-

THE DeVILBISS CO. 268 Phillips Ave. TOLEDO, OHIO

New York Chicago

DeVilbiss Detroit
San Francisco Spray-painting System Minneapolis Windsor, Ont.

Indianapolis St. Louis



Popula Century Drinking Fountain For Schools

THIS is our design No. A-63, a compact, flat back, wall fountain equipped with the patented Century Bubbler Head. This fountain requires very little wall space and is easy to keep clean.

The ease with which it can be operated encourages children to drink—they need an abundance of pure water for healthy growth. They get it from the Century.

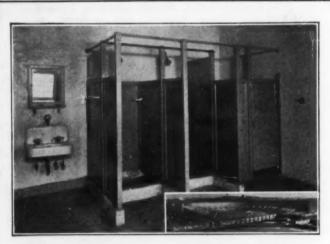
The bubbler head gives a steady even stream with-out squirting or splashing. The volume of water can be regulated as desired by a very simple adjustment requiring only a few seconds time.

To safeguard against any possible outside con-tamination the bubbler head is fitted inside a sanitary porcelain mouth guard preventing the child's lips from touching the bubbler head.

This is one of the many Century fountains particularly adapted to schools.

Send for a free copy of our new catalogue. It contains full descriptions and prices of the complete Cen-

Century Brass Works, Inc. 314 N. Illinois St. Belleville, Ill.



"EBCO" installation in Toilet Room of the Stadium at University of Minnesota.

'EBCO" STEEL PARTITIONS

-for toilet rooms



Strictest sanitation, durability, attractiveness and permanence, at a reasonable cost feature the outstanding reasons for "EBCO" preference in schools.

Send for illustrated catalog and discounts

THE D. A. EBINGER SANITARY MFG. CO. COLUMBUS, OHIO 186 Lucas Street

Bradley -Washfountains

CLEANLINESS AND SANITATION

MINIMUM OF JANITOR SERVICE

"The First Cost

is the Last Cost"

Bradley Washfountains represent a great advance in modern washroom equipment. They promote both cleanliness and sanitation, are self cleaning and require but a minimum of janitor

And Bradley Washfountains are most economical. Their use reduces the number of fixtures required. They save floor space, use less water, and permit the use of fresh tempered water at all times.

For use in Schools, Colleges and Universities and in every type of public lavatories, there is no fixture equal to the Bradley Washfountain in utility, durability and beauty and in economy of operation and mainte-

Write for Catalog

Bradley Washfountain Co.

Milwaukee,



A FEW SCHOOL INSTALLATIONS

INSTALLATIONS
Crane Technical High School,
Tidden High School,
Schurs High School,
Austin High School,
Morgan Park School,
Chicago, Ill.
Garvey School,
Los Angeles, Calif.
Theodore Roosevelt Junic
and Senior High School,
Amsterdam, N. Y.
Marquette University,
Continuation School,
Milwaukee, Wis.
Fortuna Grade School,
Fortuna, Calif.
Washington Ave. High
School,
Green Bay, Wis.
Fond du Lac High School
Fond du Lac, Wis.
South Omaha High School
South Omaha High School
South Omaha, Nebr.
Woodland Union High School
Oneida, Wis.
Great Neck Prep. School,
Great Neck, L. I.
High School,
St. Charles, Ill.
AND MANY MORE. AND MANY MORE.



There's no end to the economy of Evernu

Everywhere architects and school authorities are giving preference to the finer appearance and greater economy of Evernu Hard Rubber Toilet Seats. Recent installations include schools in New York City, San Francisco, Chicago, Cleveland, Philadelphia, Los Angeles, Tacoma, Seattle, Indianapolis, Kansas City, Baltimore and many other cities. These schools will have no repair or replacement expense. The first cost of Evernu Seats is the last cost. Long after the buildings are old the Evernu Seats will still look like new. Evernu Seats cost no more than ordinary seats. Have your architect specify them.

NEVER SPLIT SEAT COMPANY

Dept. 1312, Evansville, Ind., U. S. A. Founded 1905 THE LARGEST MANUFACTURERS OF TOILET SEATS IN THE WORLD.

REPARENTE SALES SA



AP STORAGE IN SCHOOLS

Our first impression when we started manufacturing the Miller School Wardrobe was that it should be used only in GRADE SCHOOLS. Subsequently we were requested to furnish this wardrobe for JUNIOR HIGH SCHOOLS. The cities that have put them in Junior High Schools are now putting them in the HIGH SCHOOLS.

WHY?

- 1. When wrap storage is in the class room, you have PERFECT DISCIPLINE and SUPERVISION.
- 2. NO PETTY PILFERING as wraps are under the eyes of teacher and pupils all the time.
- 3. CLASS MOVEMENTS are SPEEDED UP as there is no going between classes to the wrap storage space to secure books, etc.
- 4. RECORD OF ALL TARDINESS accurately kept. In addition to the wardrobe placed in class room or where the class assembles, there is placed in the corridor by the principal's office a four door set of Miller Wardrobes. THIS IS KNOWN AS THE LATE WARDROBE. Pupils arriving late must hang wraps here. This wardrobe kept under lock. Must go in principal's office to get into this wardrobe.
- 5. Classes assembled and dismissed from A GIVEN POINT. No leaving school prior to dismissal time.
- 6. PERFECT VENTILATION of wraps. Not possible in any other system of wrap storage in schools.
- 7. NO TEMPTATION to go to wrap storage place in case of fire the same as when wrap storage is kept in corridor.
- 8. ELIMINATION OF NOISE as this wardrobe is noiseless in its operation.
- 9. NO COST OF UPKEEP. First cost the last cost.

For complete information on the MILLER SCHOOL WARDROBE, write for catalogue W-6.

K-M SUPPLY COMPANY

123 West 8th Street, Kansas City, Mo.

(Concluded from Page 128)

The New Rational Typewriting
Edition of 1927. By Rupert Sorelle. Cloth,
165 pages. Price, \$1.20. Published by the
Gregg Publishing Co., New York, N. Y.
The 1927 edition of Rational Typewriting for
the senior high schools is based on an earlier
edition, but has been improved through the addition of new materials and new organization.
In the preparation of the book three main
thoughts have been kept in mind: The development of mechanical skill of the student as a
typist; the development of the technical education of the student as a business worker, and
the development of initiative, self-reliance, and
typing power. typing power.

typing power.

Some of the special features which enhance the value of the book are the x-ray learning charts, numerous short exercises for practice, touch and rhythm drills, the early introduction of figures, constructive problems for increasing the power of accomplishment, speed studies, phonograph rhythm records, together with a bold, clear type for the presentation of practice material. The features of the former book have been retained in the new book and are treated from an entirely new angle and made more effective.

The book is adapted for high school classes in typewriting and is arranged to cover two semesters of work.

The Interpretation of the Probable Error and the Coefficient of Correlation. By Charles W. Odell. Price, 50 cents. Bulletin No. 32, of the University of Illinois, Urbana. The purpose of the study is to throw light on the use and interpretation of two of the most frequently used statistical measures, the probable error, and the coefficient of correlation in the hope that readers will be helved in their understanding of the sign will be helped in their understanding of the sig-nificance of these terms. The formula for the probable error is given as well as the different uses of the same.

EXECUTIVE COMMITTEE TO MEET IN CINCINNATI

President John Wynkoop of the National Association of School Business Officials, has announced that there will be a meeting of the executive committee on December 18th, at Cincinnati. At that time, the committee will

take up the details in connection with the program for the next annual meeting in May, and also other matters connected with the work of the association.

MR. KINGSLEY DEVELOPS TYPICAL PLANS FOR ELEMENTARY SCHOOLS

Mr. Clarence D. Kingsley, educational consultant on school building programs and plans has recently rendered special service to the boards of education at Toledo and Cincinnati. boards of education at Toledo and Cincinnati. In Toledo, he developed the educational requirements for rooms and equipment for a new junior high school and a new senior high school building. In Cincinnati, he has been working on the development of typical plans for kindergartens and elementary schoolrooms which are being incorporated in new plans for elementary schools.

AMONG THE BOARDS OF EDUCATION

—Herbert L. Armstrong was appointed business manager by the Topeka, Kansas, board of education. Mr. Armstrong is a graduate of the Kansas University, practiced law for two years and recently served as manager for an automobile agency. mobile agency.

—It is urged that the board of education of Bridgeport, Conn., go back to the committee system. The board abolished the system a few years ago when the board was reduced in size. The board is disinclined to a change.

-The school committee of Thomaston, Conn.,

—The school committee of Thomaston, Conn., upon the request of parents, has provided covered wagons for the transportation of pupils to and from school. It is now urged that in cold weather the conveyances be heated. This request has not been granted.

—East Orange, N. J. The school board has appointed a teacher to instruct children who must remain at home because of illness. Pupils who depend on the time-honored excuses for absence will have some trouble in relieving themselves of their school responsibilities.

—The operation of the lunchroom at Mt. Holly, N. J., has been taken over by the board of education, with the cooperation of the teachers. The lunchroom has been installed and equipped for the purposes intended.

—Governor Groesbeck of Michigan, has announced that Thomas E. Johnson, state superintendent of public instruction, has been found guilty of malfeasance and misconduct in office, and has been relieved from his duties.

The action resulted from the recent hearing of charges filed against Johnson by Leonard T. Hands, state insurance commissioner. The charges were made, Johnson asserted, at the instance of Gov. Groesbeck, who was judge and jury in the hearing. The deposed official asserted that the proceedings were brought by Groesbeck for political revenge because of his support of Governor-elect Fred Green in the primary. Although it is not believed here that the Supreme Court will review the decision, George Nichold of Ionia, one of Johnson's attorneys, said an effort will be made to reverse the governor's action.

—Mr. Charles H. Ingersoll has presented 650

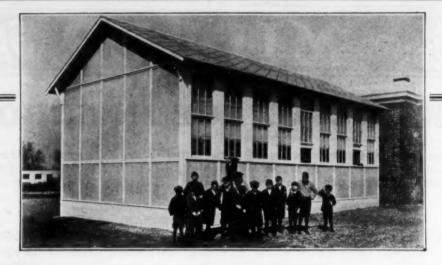
—Mr. Charles H. Ingersoll has presented 650 framed copies of a photograph of former President Roosevelt to the public schools of New York City. The photographs contained the donor's name stamped neatly in gold, and were accompanied by a letter setting forth the ideals of panied by a letter setting forth the ideals of Roosevelt. The letter was used as reading matter in connection with the Roosevelt day exercises in the different schools.

—At the annual election held in November at Bridgeport, Conn., Mr. E. H. Havens was re-elected president. Mrs. Josephine Emmons was elected a member of the board, to succeed Mrs. Fanny Crosby.

Remove Office. The John J. Nesbitt Company, Inc., have announced the removal of the executive offices and factory from Atlantic City, New Jersey, to the new buildings now located at State Road and Rhawn St., Holmesburg Junction, Philadelphia, Pa.

Philadelphia, Pa.

Opens New Sales Office. The World Book Company of Yonkers, N. Y., has opened a sales promotion office, at 110 West Peachtree Street, Atlanta, Ga., in charge of Mr. F. Edward Kaula. Associated with Mr. Kaula are Mr. O. C. Prather, Mr. G. A. Moore, and Mr. T. R. Ray. The new office makes it possible for the firm to better serve the schools in the southern states, comprising North and South Carolina, Georgia, Florida, Alabama, Mississippi, and Tennessee.



Shipped in Sections, ready to bolt together.

Exterior walls are covered with Fireproof Asbestos.

Roof covered with Fireproof Asbestos Shingles, Interior walls. partitions and ceiling lined with Fireproof Asbestos.

Protect your pupils and surrounding building from FIRE, by erecting Fireproof Asbestos schools.

Not a fire hazard but a protection against fire.

Saves Money, Time, Coal and keeps down your tax rate. Why risk lives and property by erecting wooden schools? Approved by Pennsylvania State Board.

ASBESTOS BUILDINGS COMPANY

2013 Market Street,

Philadelphia, Pennsylvania

NEW PUBLICATIONS

NEW PUBLICATIONS

Rules and Regulations of the Division of Schools of the Canal Zone, Isthmus of Panama. The booklet is divided into four parts. Part I relates to the relation of the school division to the Canal Zone government; Part II to the organization of the administrative department; Part III pertains to the regulations governing the pupils, and Part IV to the conduct and discipline of the schools. There is an appendix giving additional regulations for the high schools. giving schools

giving additional regulations for the high schools.

Aptitude and Subject Placement Tests for Elementary Teachers. Revised following experimental tryouts and statistical treatment of the results. Prepared by Dr. F. B. Knight, Dr. G. M. Ruch, Dr. J. E. Bathurst, and Mr. Fred Telford. Published by the World Book Co., Yonkers, N. Y. The tests are the result of a study carried on in cooperation by certain members of the College of Education of the University of Iowa and the Bureau of Public Personnel Administration. The tests are not in the original form used for try-out purposes but represent the product as revised on the basis of the statistical treatment of the results.

The Teacher's Responsibility for Devising Learning Exercises in Arithmetic. By W. S. Monroe and John A. Clark. Bulletin No. 31, June, 1926. Price, fifty cents. Issued by the University of Illinois, Urbana. Every teacher of arithmetic continually faces the problem "what learning exercises should I ask my pupils to do?" The work in this monograph represents an attempt to carry out a piece of complete research. The results of a number of auxiliary or fact-finding studies have been utilized but reference to them has been subordinated to the consideration of the two basic problems. The pamphlet discusses the immediate objectives of arithmetic, the processes of learning and teaching, the learning exercises of arithmetic, The pamphlet discusses the immediate objectives of arithmetic, the processes of learning and teaching, the learning exercises of arithmetic, the exercises provided by texts in arithmetic, and the teacher's responsibility for devising and selecting learning exercises in arithmetic.

Libraries in Michigan. By G. M. Walton. Michigan Library Bulletin, Lansing, Mich. Michigan claims the distinction of being the first state to make provision for libraries in her first constitution in 1835. In a list of the 100 largest

libraries in the United States, compiled in 1893, seven were located in Michigan. The pamphlet gives an historical sketch, together with descriptions and illustrations of school, public, university, and college libraries.

A Survey of Reading in the Elementary Grades. By H. B. Nash. Issued by the department of educational measurements, West Allis, Wis. The reading survey reported in this bulletin is based on the Stanford reading test and on the Detroit word recognition test. The results showed that for the city as a whole, the grades are all about at a standard.

While most grades appear alike on the basis

While most grades appear alike on the basis of the average, the median deviation shows that the groups become more homogenous from 6A to 2B. The upper grades always tend to become more "clogged" with retarded pupils, and if mass instruction becomes impossible in the lower grades, it becomes still more impossible in

mass instruction becomes impossible in the lower grades, it becomes still more impossible in the upper grades.

The 6A, 6B, and 2B grades showed the greatest school variation. The group is very heterogeneous; in the middle fifty per cent of the pupils in this grade having a grade ability ranging from 6.1 to 7.9, while 25 per cent are below 6.1 and 25 per cent are above 7.9. The 2B shows a range in median deviations of two to five months. The Roosevelt and Franklin show the same average grade of ability, while they are of widely differing groups. It is made clear that the grading in the schools is not as good as it should be, or the teacher of reading fails to meet the needs of the slower pupils. The brighter and average pupils appear to be better stimulated than the slower ones. It is necessary that each teacher and principal interpret his situation in the light of his own results.

Expenditures of State Universities and State Colleges, 1924-1925. By Walter J. Greenleaf. Higher Education Circular No. 32, September, 1926. Issued by the Bureau of Education, Washington, D. C.

Why Does Winston-Salem Stand Fourth? American Education Week Number of the Winston-Salem School Bulletin, Winston-Salem, N. C. The pamphlet discusses such items as the percentage enrollment in average daily attendance, the length of the school term, percentage of enrollment normal and under age, index of per capita cost of instruction and cur-

rent expense, and index of valuation of school

rent expense, and index of valuation of school property per child enrolled.

Health Heroes: Walter Reed. By Grace T. Hallock and C. E. Turner. Paper, 24 pages. Published by the Metropolitan Life Insurance Company, New York, N. Y. A brief account of the life of Walter Reed, his early life and struggle for an education and his advancement. struggle for an education, and his advancement in his chosen profession. The story tells of his study of the cause of yellow fever, of his success in arriving at the cause of the disease, and finally of his death at Washington.

finally of his death at Washington.

Health Heroes: Edward L. Trudeau. By Grace T. Hallock and C. E. Turner. Paper, 24 pages. Published by the Metropolitan Life Insurance Company, New York, N. Y. The pamphlet is an account of the life of Dr. Trudeau, the discoverer of the tuberculosis bacillus. The story tells of his early struggle against ill health, of his success and return to medical practice, and of the establishment of the Trudeau sanitarium at Saranac Lake. at Saranac Lake.

at Saranac Lake.

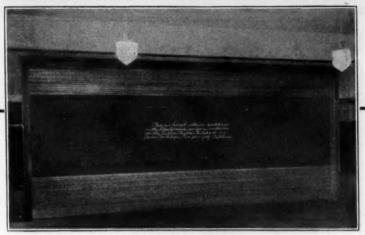
Health Heroes: Edward Jenner. Grace T. Hallock and C. E. Turner. Paper, 24 pages. Published by the Metropolitan Life Insurance Company, New York, N. Y. The pamphlet is an account of the life of Jenner, the discoverer of vaccination, telling of his training for the medical profession, his study of the smallpox situation and his later success with vaccination.

Health Heroes: Louis Pasteur. By Grace T. Hallock and C. E. Turner. Paper, 32 pages. Published by the Metropolitan Life Insurance Company, New York, N. Y. The pamphlet is a story of the life of Pasteur, the discoverer of the anthrax and rabies cure.

Rules of the School Committee of Brookline.

Rules of the School Committee of Brookline, Mass. The pamphlet is a complete set of regu-lations governing the duties of the school board, the superintendent, principals, teachers, and the sup

Laws Relating to the Construction of School-houses. Bulletin No. 2, 1926, issued by the Connecticut State Board of Education, Hartford. The pamphlet is intended to be of help to committees and school committees seeking advice and assistance relative to school building programs, choosing of sites, plans of new buildings, remodeling of buildings, heating, ventilation, and sanitation.



Luther Burbank School, Stockton, California Opening 20'-9" x 9'-8"

EFFICIENCY

The use of Acme Rolling Wood Partitions makes for efficiency in the modern school plant. The Acme Partition illustrated above provides a moving wall for practically the entire side of the room.

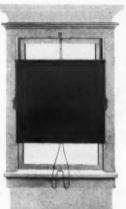
The blackboard surface shown is applied directly to the smooth surface of the finished wood.

The entire partition coils overhead out of the way, throwing two class rooms into one large room for assembly purposes.

Easy operation by chain hoist or hand crank is accomplished by means of exclusive Acme ball bearing shaft construction.

Send for complete details.

ACME PARTITION COMPANY, INC.
3538 Peralta Street
Representatives in Principal Cities



High School, Los Angeles, Calif

The Nation's finest and most efficiently equipped schools use Center Installation of

LUXOR Shade Cloth

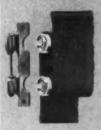
mounted on

STANDARD Shade Rollers

the scientifically correct shading for school room windows.



Center Installation using Double Inside Brackets



Center Installation using Double Outside Brackets

Perfect light control. Ventilation unhampered. No disconcerting noises. Nothing to get out of

Easily operated.

Lowest cost to install and maintain.

LUXOR is beautiful and durable. STANDARD rollers are

GET THE FACTS. Before investing in expensive, complicated window equipment be sure to read our "Treatise on Window Shadings for Schools." A copy will be mailed to you gratis at your request.

THE WESTERN SHADE CLOTH COMPANY

Chicago

Detroit St. Louis Indianapolis



Super Service Cleaners quickly pay for them-selves—then pay dividends with valuable time saved.

One Toledo janitor cleans two rooms (40 extra chairs) and cloak rooms in seventeen minutes, including window sills, chalk trays and wainscoting. Another cleans thoroughly six to eight rooms at noon—without dust.

Grime and dirt from every street and most of the alleys goes daily to your schools. It must be removed completely; its dust must not contaminate the air. This the Super Service does quicker, better and cheaper than can be done by any other means. Write for full information.

The Super Service Company

820 Lafayette Street

Toledo, Ohio.





Modern Architects plan their buildings today in such a manner as to isolate those parts where noise is produced or quiet is necessary. Sound insulated floors and partitions are of little consequence unless Hamilnized Sound Proof Doors are added. They close tight on all jams and the floor as well as being filled with the highest grade sound insulating material. There are hundreds of installations all over the United States that prove the effectiveness of these doors.

See Sweet's Catalog or write for full details

IRVING HAMLIN 1510 LINCOLN STREET EVANSTON, ILLINOIS



Replacements and Repairs During Christmas Vacation

can be easily and quickly made with "Cleveland" Kitchen and Dining Room Equipment.

Send us the list of equipment needed. An estimate with definite assurance of prompt delivery will be furnished at once.

Our long experience in the school field enables us to intelligently and economically serve you.

Exclusive Manufacturers of Born Ranges and Equipment.

The CLEVELAND RANGE Co.

General Offices and Factory 3323 Vega Avenue,

CLEVELAND, OHIO

FOR THE DINING ROOM AND KITCHEN



THE CAMDEN JUNIOR HIGH SCHOOL

CAMDEN, N. J.

Clyde S. Adams, Architect,

Philadelphia

The atructure pictured in this copy is

completely Kitcheneered by Dougherty

A Personal Message:

(W. F. DOUGHERTY, JR., President, speaking)

"Every successful business owes its Prosperity to the Quality and Variety of Service. This Organization is no exception, and so well

have we looked after the interests of our customers that the name DOUGHERTY is known for Reliability from Maine to California and from Canada to Florida."



W. F. DOUGHERTY & SONS, INCORPORATED 1009 ARCH STREET, PHILADELPHIA, PA. Branch: 914 Atlantic Ave., Atlantic City, N. J.

Cafeteria Equipment for the schools

Every piece of BLICK-MAN EQUIPMENT is fabricated of selected material by skilled mechanics under careful supervision, backed by 37 years of specialized experience.

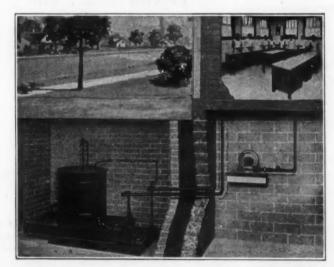
The services of our engineering department, thoroughly trained in cafeteria and kitchen layouts, are at your disposal without obligating you in any way.

S. Blickman, Inc.,

WEEHAWKEN, N. J.

Manufacturers and designers of cafeteria and kitchen equipment

YOU CAN HAVE GAS HIGH QUALITY AT LOWEST COST PROVIDE FOR A LIFE TIME SERVICE



Hundreds of Schools, Suburban Homes and other Institutions have a Freeport Gas Generator producing a satisfactory gas supply for every purpose for which city gas is used.

There is the electrically controlled type for the man who has electricity and the Weight Type where no electric current is available.

Write for literature.

FREEPORT GAS MACHINE COMPANY
(Dept. A 1) FREEPORT, ILLINOIS



Clarin Chairs are made of steel (excepting seat and rubber floor contacts) and will not mar the finest floor nor damage the most delicate floor covering.

"The Perfect Folding Chair"

The following is synonymous with this caption:

"Thought you would be interested to know this sale was effected by customer's inspection of the 40 dozen chairs you shipped to the new High School at ———."

(Both names on application)

The Clarin sells itself. Mail coupon and let it sell itself to you at our expense

Please send by parcel post prepaid—sample CL and seat as checked:	ARIN CHAIR, finish
☐ Brown (walnut) ☐ Battleship Gray ☐ Maroon (mahogany) ☐ Olive Green	☐ Wood Seat☐ Leatherette Seat
We will test it for ten days and then return it wood seat or \$3.50 for leatherette seat.	or mail you \$2.75 for
Signed	

POSSIBILITIES AND POTENTIALITIES IN MEASURING THE WORK OF A PRINCIPAL

(Continued from Page 38)

does better work when he or she is married, or has the right political affiliations, we reach debatable ground. Needless to say, standards of exact measurement are lacking, so we are free to hold and express opinions and convictions to our heart's content. Similarly the wealth of the principal undoubtedly has an influence upon his work, but whether for good or bad can only be determined when objectives are formulated and wealth measured. What we do know is that many principals carry "side lines" of real estate, life insurance, etc., to which they seem to give much more vigorous and creative effort than to their professional work. Perhaps measurement and evaluation would show that the principal who succeeds in amassing a fortune in real estate thereupon devotes that fortune to improving the work of principals, but I have my doubts.

There is no need to go through the list in detail. It is neither comprehensive nor are the items selected on the basis of importance. It is meant rather to suggest that there are literally hundreds of elements of structure, equipment, and process for which descriptive tests, scales, and standards are needed.

Evaluation of the Factors Measured

As rapidly as scales become available and measurements are made, evaluation of the relative importance of the factors measured becomes possible. If we rank principals in terms of the criterion so that we know to what degree each one is a success or failure, and if we measure structure, equipment, or operational factors, we can then correlate the two series of results and determine scientifically the relative contributions of each factor to success.

Such correlations, however, are suggestive only. Our program of measurement is not complete until we have taken a final and difficult step, namely, proving by control experimentation under the law of the single variable the casual nature of the contribution made by any one factor. While the task is difficult, it is not impossible. Fortunately the partial and multiple correlation technique is becoming more widely known and used, and more principals are becoming competent to conduct scientific experimentation.

As principals face the numerous tasks and hours of labor that must be completed before a principal's work can be brought under control, many become faint hearted and give up without effort. The task is large, but the number of workers is also large. All that is needed is faith that it is worth the mastering, and a common purpose to master. Intelligent division of labor would give each one only a small task to perform. Of course there must be effort, industry, on the part of all, and of course nothing can be accomplished without cooperation. But just glance over this magnificent audience and picture the possibilities and potentialities of the work which they represent. All that is wanting is unity of purpose and coordination of effort. If there are mountains of labor blocking the way, there are also armies of laborers to dispose of them. Measurement and evaluation of a principal's work becomes not only possible but practical as soon as principals are organized in associations for effective work, as you are organized here in Michigan.

Nevertheless, there will always be some faint hearted ones who ask whether, after all, the game is worth the candle. Well, philosophers tell us there are but three fundamental drives in human activities, the will to live, the will to power, and the will to love. Improvement of

a principal's work through careful measurement ministers directly to all three of them. We all must live, and until salary and social esteem are out of the way, they are primary considerations. But who can review the progress of the last ten years and doubt that further salary increases and further advances in social recognition will inevitably accompany every step of proved increase in professional efficiency and intelligent control?

In most of us, however, the will to power is a more insistent urge. We crave self-expression. We cannot be happy unless we experience the instinctive satisfaction which accompanies consciousness of being a cause. Fortunately a principal's work offers almost endless opportunity for the achievement of such happiness, and the principal who does not know the thrill of discovering defects in his work, studying them from the point of view of remedial activities, and finally mastering them not only for himself but for others, has yet to appreciate how significant and pleasurable the "routine administrative grind" may become.

The real transforming power, however, is the will to love. To him who has seen the vision, who can appreciate the strategic position a principal holds in the collective struggle for educational and social betterment, who earnestly desires that betterment, and is willing, nay, anxious, to spend himself in service to others to bring it about, to such a one the measurement program I have been outlining is an inspiration and a delight. The greater the difficulties, the more far reaching the consequences, the greater his joy. Petty annoyances, the pressure of daily work, the fatiguing labors of experimenting, testing, tabulating, all take on new meaning. All of us are becoming more professionally minded these days. All of us are finding new and larger loyalties springing up within



Conservatory of Music, Northfield, Minn. Sound-proofed with Cabot's Quilt. Patton, Holmes & Flinn, Architects, Chicago

Sound Proof Music Rooms

All school-rooms need sound-proof floors and partitions, but music rooms most of all. The above building was sound-proofed with

CABOT'S QUILT

and the directors report the usual "perfect results."

Sound-proof, Decay-proof, Verminproof and Fire-resistant — the only material that meets all requirements.

Samples and full details on request.

Samuel Cabot, Inc., Mfg. Chemists, Boston, Mass. 342 Madison Ave., N. Y., 24 W. Kinzle St., Chicage.



NATURAL SLATE IN ANY COLOR!

STRUCO SLATE is strong, permanent Natural Slate with a fine moulded finish—in any color desired. STRUCO SLATE will not chip, craze or discolor. It will outlast any building. For Shower Stalls, Toilet Enclosures, Urinal Stalls, Table Tops, Wainscots, etc.—STRUCO SLATE is the ideal material.

Write for interesting information on STRUCO SLATE—cheerfully sent.

THE STRUCTURAL SLATE CO.

108 Robinson Ave. PEN ARGYL, PA.

our hearts. Those who in recent years have experienced a renaissance of life, power, happiness through unselfish professional service do not need to be urged to advance further along the road of progress. Measurement and evaluation have ever opened the doors to progress and joy to those who have been willing to pay the price of entrance.

VENTILATION OF SCHOOL BUILDINGS

(Continued from Page 44)

(2) If so, what kind?

(3) How much?

(4) Shall the air be heated or cold?

(5) What shall be the temperature of the schoolroom if artificial heat is used?

(6) What is fresh air?

In answer to question No. 1, I will say that the New York State Ventilation Commission concluded that open windows, provided with deflecting boards and extra large window-wide radiators under each window, would provide proper ventilation in connection with gravity ducts containing aspirating coils to induce the air to move upward and prevent back drafts. Those of you who now have or have had gravity ventilating systems in your schools know that this system, in the main, is a failure. As laymen we need not enter into a long, scientific exposition of air conditions in the schoolroom at the pupils' breathing point. The best test is to walk into a gravity ventilated school from the open air and use your nostrils.

Several years ago anemometer tests were made in three large window-gravity ventilated school buildings in one of our large cities with the outside temperature at 15° above zero. The air coming into the classrooms at the window deflectors varied in the different exposure rooms from nothing to four cubic feet per minute per pupil, with nearly the same readings at the gravity flue intake registers. No chemical anal-

ysis of the air in the rooms was made, but the air was stale and scented with body and clothing fumes not conducive to securing the average results from the pupils.

Question No. 2—There are several kinds of mechanical systems which meet the demands for a proper working air for the pupils in the usually overcrowded schoolroom.

Question No. 3—Heated, fresh, clean air should be supplied to each schoolroom at not less than 30 cubic feet per minute per pupil, to thoroughly diffuse it with the used air in the room. This continual flow will circulate through all parts of the room and be forced out the so-called foul air duct. Let your pupils work in a closed, or partially closed, room for one and one-half hours, with very little or no clean air coming into the room, and watch the result of the re-breathing of stale air by the pupils. If you wish proof, use the smoke test at 10, 20, and then 30 cubic feet per minute and watch the difference in clearing the room of all smoke.

Question No. 4—The air must be heated before being supplied to the schoolroom to prevent cold drafts reaching the pupils. We think you will all agree with this statement.

Question No. 5—The temperature of the schoolroom should be at about 68° above zero. It should never exceed 70°. The average pupil lives in a home that is well heated and dresses accordingly.

Question No. 6—There seems to be a discussion among the scientific experts as to what constitutes fresh air. Dr. C.-E. A. Winslow would take the raw outside air, filled with all sorts of fumes—playground dust, etc.—and then let it trickle in an open window during a nonwindy day, and let it blow in at 20 miles an hour, if the wind blows that hard on the windy side of the building, on windy days. But he

would have exhaust ventilating ducts provided with aspirating coils to remove the air from the rooms. Mr. E. S. Hallett, engineer of the St. Louis board of education, would take the raw air, wash it and heat it, push it into the school-rooms with a fan, draw it out of the rooms into ozone chambers to remove the exhaled and foul fumes, and push it back to the pupils, with very little reheating. I will say for Mr. Hallett that I have visited several of the schools in St. Louis, and they either are telling the truth or they work their swimming pools and shower baths over time. We do not mean to advertise ozone, as this process is not used in New Jersey.

And it was in St. Louis that I learned how effectually our New Jersey ventilating regulations are side-stepped in one of our largest cities. A janitor, trained by the St. Louis school board, (and they train every one of them), wandered to New York City and then to New Jersey. In New York City and in a certain city in New Jersey, the schools in which he worked were supplied with proper mechanical ventilating apparatus, but they were not in use during his term of service.

Mr. E. E. Kimball of the New York Ventilation Commission, says, "A poor ventilating system in the hands of a skilful engineer will give better results than will the best system in the hands of a poor janitor. The success achieved with a mechanical ventilating system is largely a measure of the intelligence and skill of the operator."

Recently I have talked with several schoolmen in charge of city school systems, and each sees to it that every ventilating system in the schools under his supervision is in proper operation every school day when the schools are heated artificially, and in one city the fans are run every day the schools are in session.

(Concluded on Page 189)

For Lasting Impressions

-Show It!

Tell them, and what you say is often soon forgotten.

Show them, and it will live.

Pathe offers to you motion pictures suited to your needs, edited by specialists familiar with your problems, selected for specific purposes.

Here are a few which we suggest:

Pathe News Current Events Course; complete course of one reel per week, plus a quarterly one reel resume.

Alaskan Adventures, 6 reels; wonderful scenery in the far north, with amazing views of wild animals. The birth of the icebergs, the Valley of Ten Thousand Smokes, the midnight sun, the break-up of ice in the Yukon.

Nanook of the North, 6 reels; the classic of the Arctic, depicting the life and hardships of the Eskimo. Photographed by Robert Flaherty, F.R.G.S.

World's Food Series, 6 reels; prepared with the co-operation of the U. S. Department of Agriculture.

Amundsen's Polar Flight, the dramatic and unsuccessful attempt of the famous explorer to reach the North Pole by airplane; 2 reels.

The World's Struggle for Oil, 6 reels; the where and how of a major industry.

Pathe Review, one reel weekly; the magazine of the screen covering travel, science, botany, animal life, customs, etc. Many subjects in Pathecolor.

Recreational programs in great variety, including two reel and feature comedies, feature dramas, etc., etc.

National service. There's a Pathe exchange near you. All films in good condition.

Educational Department

PATHE EXCHANGE, INC., S. B. J. 35 W. 45th St., New York

Gentlemen:	Please	send .	me the	complete
catalogue d	escribin	g all	Pathe	picture
suitable for	study g	roups		

Nam

Address

TEACH WITH PICTURES!



TRANS-LUX Air-Cooled Opaque Projector AND Daylight Picture Screen

make this possible under daylight conditions.

Loose-leaf holders permit the use of up-to-date pictures, book and magazine illustrations, sketches, and diagrams at a moment's notice, without special preparation, as well as opaque objects.

A stereopticon attachment enables you to use standard lantern slides with the same projector.

Colors are faithfully reproduced in both types of projection.

The equipment is very simple to operate and, as clear evidence of its value, schools and colleges everywhere are adopting the TRANS-LUX UNIT, Air-cooled Opaque Projector, Stereopticon attachment, and Daylight Picture Screen.

We shall be pleased to discuss your Visual Instruction Problems with you.

THE TRANS-LUX DAYLIGHT PICTURE SCREEN CORP.

247 Park Avenue New York, N. Y.

NARRAGANSETT

Standard Equipment
GYMNASIUM-PLAYGROUND-STEEL LOCKERS

To Develop Poise and Muscle Co-ordination



NARRAGANSETT HORIZONTAL & VAULTING BAR

"Manufactured by Engineers"
This means that it has ease of adjustment and is made right.

NARRAGANSETT MACHINE CO.

CHICAGO

PROVIDENCE, R. I.

NEW YORK

1504 Monadnock Block Established 1882

138 E. 44th Street

"SAFETY COMES FIRST"

......

The Wayne Steel Sectional Grandstands

That you can buy now, can be used in your

Gymnasium for Basket-ball

And in the spring, transferred to your baseball field.

One Investment Provides Seating Accommodations For All Outdoor And Indoor Events.

Immediate Delivery

Write For Catalog And Prices

WAYNE IRON WORKS

Lincoln Highway and Pembroke Avenue WAYNE, PA.

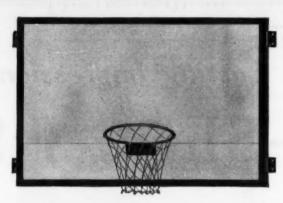
Distributors in Cambridge, Mass. Columbus, Ohio, Chicago, Detroit,

St. Louis,
Baltimore.

Wayne
Stands For

Safety.





SANI ONYX A VITREOUS MARBLE

A Perfect Target to Shoot For!

A PERFECTLY smooth, one-piece bank-board of snow white SANI ONYX will improve players' efficiency and make for more accurate scoring.

Forty per cent harder than marble, the SANI ONYX bank-board is practically unbreakable, and a heavy felt cushion background offers unusual resilience. The pure white, glare-free surface prevents light reflection and sets off the basket in bold contrast. Recommended by experts everywhere

Send for illustrated folder and detailed data on installation costs, etc.

Marietta Manufacturing Company

77 Brookside,

Indianapolis, Indiana

share of the responsibity for the safety of the children in case of fire.



Henry W. Yates School, Omaha, Neb.

It is your duty to know the most certain protection against great loss of life in case of panic and school house fire.

THE
POTTER
FIRE
ESCAPE

is the only fire escape of any kind approved by the Underwriters Laboratories.

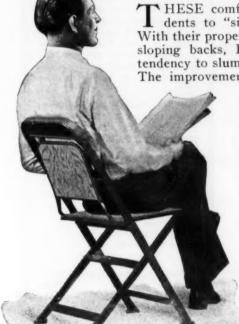
Interesting information on request.

POTTER MANUFACTURING CORPORATION
1858 CONWAY BUILDING CHICAGO, ILL.

BEACON POLICIAIRS

Students Become More Attentive Teachers Secure Better Results Principals Effect Greater Economy

when seating problems are solved with comfortable, silent, durable



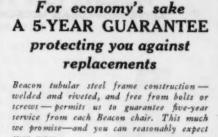
HESE comfortable chairs induce students to "sit up and pay attention." With their properly formed seats and gently sloping backs, Beacon Chairs reduce the tendency to slump and squirm about The improvement in classroom morale is noticeable.

> Beacon Chairs possess the strength that steel alone can offer. They are proof against wobbling, breaking or accidental collapse.

With their rigid construction and rubber leg-tips, they eliminate the creaking and clatter so annoying to both teacher and stu-

As Compact as a Camera— As Easy to Handle

Beacon Chairs quickly fold flat to a thickness of only 13/8" for easy storage or emergency exits. Their light weight (less than 10 pounds) enables a child to set up or fold them.



A Sample Will Help You Convince Yourself That Beacon Chairs Are Best

-and therefore we want to send you one on 10 DAYS' FREE TRIAL . . . Just mail us the coupon, stating the color of your other classroom equipment.



BEACON STEEL FURNITIURE CO. 1841-1845 Carroll Ave., CHICAGO

Please send a Beacon Chair on 10-day approval, subject to return for full credit if it does not prove entirely satisfactory.

- ☐ Wood seat and wood back
- ☐ Upholstered seat and wood back
- Upholstered seat and upholstered back

COLOR { Brown Battleship Gray Mahogany Olive Green

(Concluded from Page 136)

I believe that the real incentive back of the ventilation discussion is the cost of installation and the cost of operation and maintenance, rather than the interest of the school pupil.

About a year ago I was asked by a firm of efficiency engineers who were working for a legislative investigating committee, to give them figures on mechanical ventilation installations in this state. In 24 buildings of various sizes and recent construction the heating and ventilating median cost was eleven per cent of the total building cost. The heating and ventilating plant is usually combined in the building contract in the fact that the air in the room not only requires heat, but the new air being supplied must be heated; therefore, the cost is com-

In a 2,400 pupil school erected last year at a cost of \$1,300,000, the heating and ventilating cost was \$114,000, or 8.66 per cent of the total cost, and of this total the ventilation cost was estimated by the contractor at \$64,000, or 4.85 per cent of the total cost of the building. For comparative purposes it may be well to add that the architects' fees for drawing the plans and specifications and supervising the construction were six per cent of the total cost of the These figures will give you a rough index on heating and ventilating costs in New

Many of the persons present may know that the ventilating systems in the buildings under their supervision are obsolete and will not produce desired results. Comparatively few buildings erected prior to 1912 were equipped with other than gravity ventilating systems, therefore, we must eliminate these systems in judging well ventilated buildings. If textbooks are obsolete or worn out superintendents see that new ones are adopted. The moral is obvious.

All schoolmen know that we should have custodians of buildings who are skilled in operating ventilating, as well as heating, systems.

In conclusion, it is my judgment that every school building should be completely equipped with a mechanical ventilating system which furnishes clean, heated air to every room used by the pupils and teachers, including coat rooms and inside toilets, at the rate of at least 30 cubic feet per pupil per minute with the temperature of the rooms at 70° in freezing weather. It is my recommendation that a law fixing a penalty for non-operation be passed, and that custodians of buildings be required to hold proper qualifying certificates.

CODE SYSTEM FOR SCHOOL ACCOUNTS (Concluded from Page 48)

The uniform adoption of such a code system as this with the attendant organization of accounts will furnish the school executives with valuable data for making education more effective and for justifying requests for increases in funds. They will be able to take directly from the books of account without any labor of redistribution, the required data and can use similar data with respect to other systems with the knowledge that they were secured in the same manner as their own. The general use of such a system would rapidly iron out defects in its organization which cannot always be anticipated before the plan is put to the acid test of experience.

Summary

A code system will prove valuable in the following phases of school accounting: (a) Routine distribution of expenditures; (b) carrying out budget allowances; (c) determination of unit costs; (d) organization of accounts; (e) preparation of reports.

An organized code system is presented together with the assurance that the agencies con-

tributing to its design are not liable to cause changes in the immediate future which will destrov its usefulness

BIBLIOGRAPHY

Case, H. C.: Uniform System of Recording Disbursements for School Purposes as Prescribed for New York State. American School Board Journal, 53:24-26, 68, Oct., 1916.

Close, Egbert: Uniform and Simple System of Book-keeping for Schools. American School Board Journal, 48:17-18, 64-65. Feb., 1914.

Doughton, Isaac: Cost Accounting and Budgeting in a Small City. American School Board Journal, 62:41-44. Je., 1921.

Engelhardt, Fred: Accounting Systems for Smaller School Districts. American School Board Journal, 65:44-47, 115-16, 119-20, Sept., 1922.

Job. Leonard B.: Uniform Cost Accounting in Indiana. American School Board Journal, 60:42-44, Lizer, G. D.: School Accounting. American School Board Journal, 51:18, 84, July, 1915, and 51:17-18, June, 1915.

Mount, John S.: Accounting System for Public Schools.

Board Journal, 51:18, 84, July, 1915, and 51:17-18, June, 1915.

Mount, John S.: Accounting System for Public Schools. American School Board Journal, 69:41-44, 119-120, Dec., 1924.

Mullan, J. S.: Mechanical Tabulation of School Financial Statistics. American School Board Journal, 53:18-19, 82, Aug., 1916.

New Accounting Schedule. Editorial, Elementary School Journal, XXII (1922), pp. 565-70.

Peel, Arthur J.: Simplified School Accounting III. American School Board Journal, 66:39-41, May. 1923.

Powers, Lorin: Uniformity in Classification of School Expenditures. American School Board Journal, 57:30, 67, Aug., 1918.

Report of the Committee of Accounting and Ter-

Report of the Committee of Accounting and Terminology. Proceedings of the 13th Annual Meeting of the National Association of Public School Business Officials, pp. 105-11.

Report of the Committee on Uniform Records and Reports. Proceedings of the 15th Annual Meeting of the National Association of Public School Business Officials, pp. 32-36.

Report of the Committee on Uniform System of Accounting and Cost Finding, Proceedings of the 18th Annual Meeting of the National Association of Public School Business Officials, pp. 55-58.

Storer, J.: Uniformity in School Accounting. Preceedings of the National Education Association, 1918, 369-74.

Theisen, W. W.: "Procedure for Uniform Accounting." Proceedings of the 12th Annual Meeting of the National Association of Public School Business Officials, pp. 147-54.

—Mr. Harrison Cossart has retired as super-intendent of the fifth supervisory district of Otsego County, N. Y., after the completion of 35 years of service in educational work.

PRESERVE YOUR EYES and use LEITZ BINOCULAR MICROSCOPE "LBM" for PROLONGED OBSERVATIONS

Due to the ocular tubes being arranged parallel to each other and the perfectly aligned prism system the Leitz Binocular Microscope "LBM" is suited in a most ideal manner.

for prolonged observations without the least eyestrain or fatigue noticeable.

Structural details or sensitive color impressions that might escape the

one eye will be completely compensated for by the other and images are seen in stereoscopic relief.

Microscope "LBM - 10"
with rack and pinion coarse
and micrometer fine-adjustment; large square
stage, vulcanite covered;
illuminating apparatus
with rack and pinion
movement, having "Abbe"

condenser N.A. 1.20 triple dustproof nose-piece; achromatic objectives 3 (16mm), 6 (4mm), Oil Immersion 1/12" (2mm) N.A. 1.30 paired "Huygens" oculars II (6X) and IV (10X) in highly polished hardwood cabinet with lock and key......\$190.00

Monocular Tube, interchangeable with binocular tube, for use in photo-micrography, extra......\$12.00

WRITE FOR DESCRIPTIVE LITERATURE 1065 (DD).

60 EAST

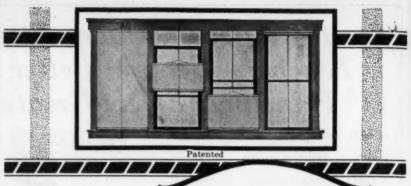


10th STREET

AGENTS:

Pacific Coast States: SPINDLER & SAUPPE, 86 Third Street, San Francisco, Cal.

Canada: THE J. F. HARTZ CO., LTD., Toronto 2, Canada Philippine Islands: BOTICA DE SANTA CRUZ, Manila, P. I.



DraperAdjustable Window Shades

Draper's Adjustable Window Shades are guaranteed to give satisfactory service and will continue to do so over a long period of years—because they are built for service—and meet every window requirement most satisfactorily, efficiently and economically.

Let us solve your window shade problems. Tell us how many windows there are in your school building, give us the size, and our experts will be glad to make suggestions and will quote you on equipping your building. This service places you under no obligation.

Write for samples of Draper Shade material, prices and descriptive literature.

LUTHER O. DRAPER SHADE CO. Spiceland, Indiana.

— meet every school requirement



FINANCING THE CAPITAL COSTS OF EDUCATION

(Concluded from Page 63)

costs should be computed annually and the money should be paid into a reserve fund so that when funds are needed for extension of the plant to accommodate an increase in attendance, or for a new building or new equipment, they shall always be in hand. In this way a district can always meet its obligations as they arise, and will always operate upon a cash basis. If this reserve fund is wisely administered and proper investments are made, it will always be producing revenue in the form of interest. The effect of this upon the building program has already been shown. The essence of the reserve principle is that all costs should be provided for as they accrue. This principle is fundamental to success in business, and it operates in exactly the same way in school administration.

The objection to this principle in education is made by some that we have no right to take the taxpayers' money from productive enterprises and place it in a reserve for education. This argument may be met in two ways. In the first place, the right to collect money for the reserve is a just one. It is only taking title to what really and justly belongs to education. It has already been shown that these capital costs (accrual for extensions and depreciations) are just as much an annual cost to education as are the teachers' salaries. If they are, then there can be no question as to a district's right to collect this cost and place it in a reserve. It seems that a school district would have the same right to build up a reserve to construct a building as it has to build up a sinking fund to retire bonds after the building has been constructed. The principle is the same in each case, and certainly

the former is a better financial policy. In the second place, this reserve is not removed from productive enterprises, for it is put out in loans into productive channels. Thus the argument against the reserve seems not to be a valid one.

NEW SCOTIA HIGH SCHOOL, SCOTIA, N. Y.

(Concluded from Page 49)

About five hundred pupils can be accommodated under the present arrangement. Additional classrooms can be readily added to the rear of the building as needed.

The cost of the building fully equipped was \$355.980 divided as follows:



CHAS. R. KELLOGG, President of the Board of Education, Scotia, N. Y.

General construction					. 8	251.220
Heating and ventilating	ng					28,315
Plumbing			0			15,716
Electrical work						8,788
Equipment						33,695
Architect and other e	xper	18	e	8.	٠	18,246

On one of the corridor walls is the following bronze tablet which lists the people most intimately associated with the erection of the new building:

TOTAL

SCOTIA HIGH SCHOOL Erected 1923-1924 BOARD OF EDUCATION Chas. R. Kellogg, Pres.

Wm. C. Treder
Agnes S. Williams
A. R. Leith
L. F. Mulholland
S. Dushman
R. E. Doherty
A. W. Miller, Supt.
J. M. Ryder, Architect

Special mention should be made of the service rendered by Mr. Chas. R. Kellogg, who, as president of the board of education, devoted much time and effort to the undertaking. The board, the public, and the contractors all realized that from him they would receive a fair deal.

Hanrahan Bros., Builders

CHECKING UP ON HEATING

(Concluded from Page 56)

Pipe covering pays for itself in from three to four years. Cases can be cited where a reduction of as high as fifteen per cent has been made in the fuel bill by covering the steam pipes. Fully 95 per cent of the heat losses may be prevented by properly covering the pipes, steam dome, and fittings. It does not pay, however, to use a cheap, inefficient covering, neither does it pay to expend large amounts of money in order to increase the efficiency of the covering another one or two per cent.

THE MACQUARRIE MAP AND DISPLAY RAIL

For use in schools from the kindergarten to the university, this slender steel rail with hook and tack slides, solves in the simplest way the problem of hanging maps, pictures, graphs, charts, bulletins, or any sort of illustrative matter.

Admirable for geography classes where a number of maps may be studied and slipped forward without removal from the rail; for domestic science classes and art exhibits; for the display of any material that may be suspended from hooks or tacks.

Simple, inexpensive, easily adjusted.

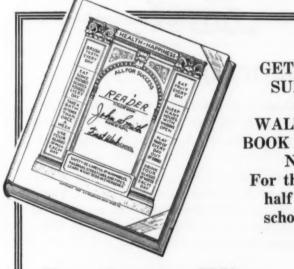
Send for descriptive folder

RAND MCNALLY & COMPANY

(Dept. M-94)

New York

CHICAGO 536 So. Clark St. San Francisco



GET YOUR
SUPPLY
of
WALRAVEN
BOOK COVERS
NOW
For the second
half of the
school year

The Reason Why

- "These are absolutely the best book covers I have ever seen."
 WINDSOR, ONT.
- "The cover has all the points of merit you claim for it."

 BALTIMORE
- "The cover is adaptable to nearly all sizes of books, which is a large item.....LOUISVILLE.

18,000,000 Walraven Health Covers carried the eight Fundamental Rules of Health to school children last year.

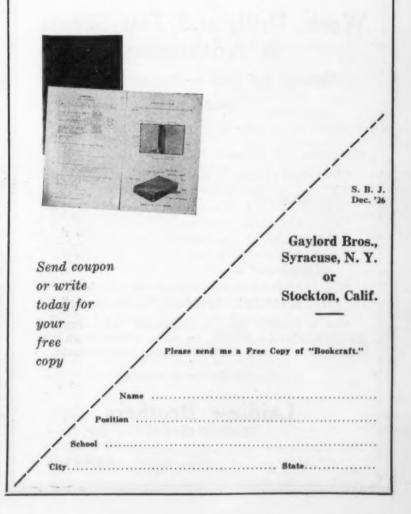
SAMPLES ON REQUEST

A. T. WALRAVEN BOOK COVER CO. CHICAGO

"The Health of the Child is the Potential Power of the Nation"

BOOKCRAFT

If you have not yet investigated BOOKCRAFT a moment's action now will place the facts on your desk. The coupon is for your convenience, or, write if you prefer.



OLENIUS Course in Reading

GRADES I-IX

The Bolenius Course represents an entirely new phase in the evolution of the teaching of reading. From the first lesson it leads the child to realize that reading is not mere "word calling," but that back of the printed symbol lies the idea which he must grasp, and that he has not "read" unless he has successfully interpreted the printed page. It requires real thought responses, the checking of these responses, and an equipment which furnishes the technique demanded.

Through the Bolenius Course correct habits of study are established which will bear fruit in all of the pupil's school work, and in his later development.

Completion of Course Junior High School texts

LITERATURE IN THE JUNIOR HIGH SCHOOL

Book One, Grade VII	\$	1.40
Book Two, Grade VIII	. In	press
Book Three, Grade IX	. In	press
"A Guide to Literature"-Manual for		
Grades VII VIII IX	Las	Araci

HOUGHTON MIFFLIN COMPANY

Boston

New York

Chicago

San Francisco

The LENNES

Work, Drill, and Test Sheets in Arithmetic

Remedial Drill Work — Standardized Tests

Grades 2-8

By N. J. Lennes

Classroom Use Reveals

"INTERESTED, Wide Awake Classes"

"WORK at Top Notch Speed"

"INDIVIDUAL Weaknesses Diagnosed"

"INDIVIDUAL Weaknesses Remedied"

"MASTERY of Fundamental Operations"

"A CONTINUOUS and Definite Record of Progress"

"CLASSES Above the Average—By Actual Test" "ARITHMETIC the Most Popular Study"

Not a novelty nor an ingenious fad—but an EDUCATIONAL BOON, as large orders from the same place for the third successive year indicate.

Write for Further Information

aidlaw Brothers

Educational Publishers

2001 Calumet Ave. CHICAGO

118 E. 25th St. NEW YORK

WEBSTER HISTORIES

HE WEBSTER HISTORIES are humanistic. The humanizing of knowledge both in and outside of schools is one of the most promising of present cultural tendencies. In this series of histories there is an unusual amount of social historical material which does not appear in other school histories - intimate views of people and their homes, costumes, occupations, amusements, festivals, art, literature, superstitions, and beliefs. In picturing these social cross-sections, the author enlightens them with biographical flashes of their leaders and heroes.

But an ingenious selection of historical material is not humanized until it is written in a vivid manner. The Webster Histories are known and liked for their story qualities. They are simple, brisk, illuminating narratives with an even distribution of facts. The author is a master both of the simple sentence and of simple diction. The style suits the purpose precisely.

RECENT ADDITIONS

Webster's Readings in Early European History Webster's Readings in Modern European History

D. C. HEATH AND COMPANY

NEW YORK CHICAGO ATLANTA
DALLAS SAN FRANCISCO LONDON

Announcing-

the absorption of the Taylor Holden Book List, edited by Frank E. Mathewson, Director of Manual Training, Jersey City, N. J., in the BRUCE BOOK

In 1911, Mr. Mathewson began the editing of the Haytol Series of Textbooks for Industrial and Vocational Education, which developed over a period of fifteen years into the Taylor Holden list of Shop and Mechanical Drawing Texts.

The list contains-

APPLIED MECHANICAL DRAWING

NOTES FOR MECHANI-CAL DRAWING

PERSPECTIVE SKETCH-ING FROM WORKING DRAWINGS BRIEF COURSE IN MACHINE DRAWING

all by Frank E. Mathewson

SHOP MATHEMATICS, Holton

FORGE SHOP PRACTICE. Littlefield

PROGRESSIVE EXER-CISES IN TYPOGRA-PHY, Loomis

The growth of the BRUCE LIST of Industrial Arts and Vocational Books parallels the unprecedented present growth of the program in this field.

THE BRUCE PUBLISHING CO.

129 Michigan St.

Milwaukee, Wis.

SPECIAL RULED AND PRINTED HEADING TABLETS



Ruled Margin Line Printed Form Punched Margin Holes



B

Permanently Bound and Perforated Printed Form



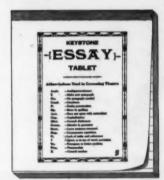
Ruled Margin Line Open Side Punched Margin Holes



Removable Leaves Ruled Practice



Removable Leaves White Drawing Paper Pen, Pencil or Crayon



Removable Leaves and Underblotter

MADE QUALITY GUARANTY, AT HUNTINGDON, PENNSYLVANIA

J. C. BLAIR COMPANY

History

Reading

English

Vocational

Woodburn and Moran's Histories and Civics

Finders and Founders of the New World (4th Gr.)

The Makers of America (5th Gr.)

Introduction to American History (6th and

Elementary American History (7th and 8th Gr.) The American Community (8th Gr. and Junior H. S.)

Beginner's History of the United States

A book of original features. For 4th and 5th Grades. Nearly ready.

The Horace Mann Readers

Modern tales and old favorites. Readers for eight grades. Teacher's editions for grades 1-3. NEW series illustrated entirely in color.

The Andrew Lang Readers

Based on the famous Lang fairy tales. For Grades 2-5. Supplementary.

Grady and Wade's Modern English Series

Grammar, composition, spelling, dictionary drill, library exercises, phonetics, etc.—all branches of spoken and written English. A book for each year beginning with the fourth.

Bate and Wilson's Studies in Vocational Information

A new guidance text for Junior High, Vocational, and Continuation Schools. Field work and outside reading. Exceedingly practical.

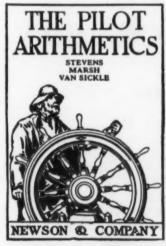
LONGMANS, GREEN & CO.

New York

Chicago

Boston

PILOT FOR PROGRESS!



Pupils studying Pilot are sure of rapid progress in their arithmetic work because

- 1. Correct habits are built from the very start;
- The gradation is so perfect;
- The directions are so clear and the drill so thorough.

THREE BOOK AND SIX BOOK SERIES

Supplemented by the distinctive

PILOT TEACHERS' MANUALS

For Grades One through Four and for Grades Five and Six

and by

STEVENS' DRILL CARDS-FOUNDATION NUMBER WORK

Sets One, Two, Three, Four, and Five For Grades One through Four

NEWSON & COMPANY

73 Fifth Avenue, New York, N. Y. 623 South Wabash Avenue, Chicago, Illinois



This Christmas

Give Your School A DeVry Movie Projector



FREE BOOKLET

This illustrated booklet telling how motion pictures are creating new interest in classrooms everywhere will be sent upon request. Write for it. Everywhere schools and churches are learning the power of visual education. Everywhere a new interest is being added to the classroom. You, too, can employ this new force in your work. This Christmas give your school a movie projector . . . but give a De Vry . . . for only De Vry motion picture projectors can give you the brilliance of professional movies. That's why there are more De Vry projectors in school use than all other makes combined.

DE VRY CORPORATION
DEPT. 12-U
CHICAGO, ILLINOIS

Devry
Motion Picture
PROJECTORS

DEPENDABLE STAGE SCENERY

Our New

BROCHURE

Will help you visualize your Auditorium Stage as it should look when completely equipped with

"UNIVERSAL" Scenery.

Ready for distribution Dec. 10th, to Architects.

Purchasing Agents,
School Superintendents
And Others

Write for your copy.

UNIVERSAL SCENIC STUDIO, INC.

329 Van Slyke Court ST. PAUL, MINN. 652 Randolph Bldg. MEMPHIS, TENN.

Distributor Wanted

NEIGHBORHOOD MOTION PICTURE SERVICE,

has established fifteen libraries throughout the United States to supply Film Lessons to elementary and secondary schools.

These lessons are specially produced or edited by recognized authorities. Comprehensive courses of bi-weekly lessons in Citizenship, Nature Study and Current Events are now in successful use. Additional new courses released each term.

In addition to the fifteen library centers already established, we are now introducing a full service of non-inflammable films, teacher's manuals, projection equipment and operator to any school on regular schedule.

We still have a few vacancies in choice locations for additional distributors.

No investment is required as all projectors, films and other supplies are furnished, but distributor must be financially able to carry his own selling expense during his organization period.

A permanent and profitable business with exclusive territory is assured each of our distributors.

For further particulars, address stating qualifications.

Neighborhood Motion Picture Service, Inc.

131 West 42nd Street, New York City.

AN AMAZING OFFER

Any one of the following books bound in Half Russian leather at only 75c. If five or more are purchased the price is 60c per volume. This offer on any of the following Classics closes December 31st, 1926—Every book is uniform in size, 5" x 7%", and binding.

List of Titles of the Union School Library

The Selection of Well-known Educators
Every Book Uniform in Size and Bound in Half Russian Leather.
Published by the UNION SCHOOL FURNISHING CO., CHICAGO, ILL.

	Published by the UNION SCHOOL	FURNISHING CO., CHICAGO, ILL.
	Adam BedeGeorge Eliot	45 Favorite PoemsSt. Elmo
	Adventures of a Brownie Miss Mulock	46 Fifteen Decisive BattlesCreasy
	Aesop's Fables Monds de Niziriac	47 First Violin, TheFothergill
4	Age of Fables or Stories of Gods and	48 Flower FablesAlcott
	HeroesBulfinch	50 Goethe's PoemsGoethe
O	Alice's Adventures in Wonderland.	51 Grandfather's ChairHawthorne
0	All Aboard, or Life on the Lakes Optic	52 Green Mountain Boys Thompson
	Andersen's Fairy TalesAndersen	53 Grey's Elegy and Other Poems. Selected
0	Around the World on Sixty Dollars	54 Grimm's Fairy TalesGrimm
	Around the World on Sixty Dollars	56 Hardy Norseman, TheLyall
11	Aunt Martha's Corner Cupboard	57 Heroes and Hero WorshipCarlyle
-		58 HiawathaLongfellow
16	Blithesdale RomanceHawthorne	59 Holmes' Poems
17	Boat ClubOptic	62 Idylls of the KingTennyson
	Book of Golden DeedsYonge	68 Lady of the LakeScott
	Boy Knight	69 Lalla Rookh
	Boy's Life at SchoolD'Amiciś	70 Lamplighter, TheCummins
	Bracebridge HallIrving	71 Last Days of PompeiiBulwer
	Brownies and Other StoriesCox	73 Leatherstocking Tales
	Bryant's PoemsBryant	Rev. J. L. Hurlbut
20	Child's Garden of Verses	76 Lincoln, Life of, Vol. 1Raymond
0.0	Child Harold's PilgrimageByron	77 Lincoln, Life of, Vol. 2 Raymond
	Children's History of England. Dickens	78 Light of AsiaArnold
	Children of All Nations	80 Little by LittleOptic
.0	Rev. J. L. Hurlbut	81 Little Lame PrinceMulock
29	Courtship of Miles Standish Longfellow	83 Lives of the Presidents.
	Crown of Wild OlivesRuskin	86 Lucile
32	Daniel Boone, Life of Edward S. Ellis	88 Man Without a Country, The
	Deerslayer, TheCooper	Ed. Everett Hale
	DutySmiles	91 Mosses From an Old Manse. Hawthorne
	East Lynne	92 Mother Goose Rhymes and Jingles.
	Emerson's Essays, Complete. Emerson	93 Napoleon and His Marshals, Vol. 1
	Emerson's PoemsEmerson	Headley
	Eugene AramLytton	94 Napoleon and His Marshals, Vol. 2 Headley
12	EvangelineLongfellow	96 Now or NeverOptic
43	Fairyland of Science, TheBuckley	97 Palace Beautiful, TheMeade
44	Familiar Quotations (over 3000) in	98 Past and Present
	prose and verse from works of our	99 Pathfinder, TheCooper
	greatest authors.	we a secondarious, among the second

Above is only a partial list. Send for complete list.

ORDER NOW

UNION SCHOOL FURNISHING CO. Chicago, Illinois

034 W. Van Buren St.,

Qur Motto: All School Furnishings.

The "Supreme Authority"

WEBSTER'S **NEW INTERNATIONAL** DICTIONARY

THE MERRIAM-WEBSTER

Because

Hundreds of Supreme Court Judges concur in highest praise of the work as their Authority. The Presidents of all leading Universities, Colleges, and Normal Schools give their hearty indorsement.

All States that have adopted a large dictionary as standard have selected Webster's New International.

The Schoolbooks of the Country adhere to the Merriam-Webster system of diacritical marks.

The Government Printing Office at Washington uses it as authority.

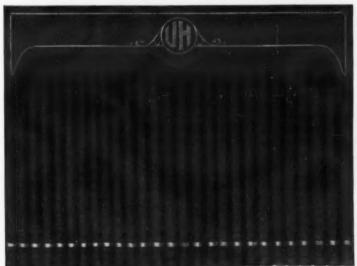
Write for Helps in Teaching the Dictionary, FREE.

G.&C. MERRIAM COMPANY

Springfield, Massachusetts

Get the Best!





Jackson Proscenium Curtain No. 26

Beautiful-Practical-Economical

The stage curtain is the most conspicuous object in the school auditorium. In the beauty of fabric and finish our proscenium curtains satisfy the most exacting observer, and their correct construction assures perfect operation.

> Jackson Collapsible Partitions for and Gymnasiums.

A. P. JACKSON CORPORATION HERKIMER, N. Y.

Where "the overhead is low."

American Book Company

的表現的發展的發展的發展的發展的影響的影響的影響的影響的

Educational Publishers

NEW YORK, 100 Washington Square CINCINNATI, 300 Pike Street CHICAGO, 330 East 22d Street BOSTON, 63 Summer Street ATLANTA; 2 North Forsyth Street

Address all communications to the nearest office of the company. Descriptive circulars, catalogues, and price list's will be mailed on request to any address.

Your correspondence is solicited and will have prompt attention.

Modern Junior Mathematics

By Marie Gugle Assistant Superintendent of Schools, Columbus, Ohio

NEWLY REVISED AND ENLARGED

This unique course in general mathematics is the outgrowth of classroom experiments made by the author and her teachers over a period of several years.

Although the books met with marked success from the start, the author has, by five years of further study, observation, and research, been able to make refinements and additions that easily make Modern Junior Mathematics the outstanding series in the field.

In the revised editions the following additions have been BOOK I (Seventh Grade)

Helpful Suggestions to Teachers,
A Chapter on "Measurements" which may be used as an alternative for e chapter "Necessary Records in Business."
Questions and Problems by Chapters,
Minimum Essential Tests.

BOOK II (Eighth Grade)

(Eighth Grade)
Suggestions to Teachers.
Practice Problems by Chapters.
Shop and Home Economics Problems.
New Types of Tests.
Minimum Essential Tests.
The Relation of Mathematics to Art with illustrations in color.

BOOK III (Ninth Grade)

(Ninth Grade)
Suggestions to Teachers.
Introduction.
Practice Problems by Chapters.
Minimum Essential Tests.
Some Topics of Advanced Algebra.
The "Introduction" to Book III makes it possible for students who have had only eighth grade arithmetic in the elementary school to do the work outlined in Book III for the pinth grade the ninth grade.

By the additional topics on advanced algebra, Book III becomes a complete mathematical unit, and prepares the pupil thoroughly for the regular tenth year algebra or

If you have not seen the revised editions of Modern Junior Mathematics,

THE GREGG PUBLISHING COMPANY

New York

Chicago Boston San Francisco London

MANUFACTURERS OF
HIGH GRADE
GYMNASIUM EQUIPMENT
PLAYGROUND APPARATUS
ATHLETIC SUPPLIES



CHICAGO GYMNASIUM EQUIPMENT COMPANY

1835 W. Lake Street,

CHICAGO

Send for Catalog



HARBUTT'S PLASTICINE

FOR MODELING

Antiseptic and Never Hardens

J. L. HAMMETT COMPANY

KENDALL SQUARE, CAMBRIDGE MASS.

Distributing Agents for U.S.

Order from your School Supply Dealer

Put Four Wheel Brakes on Your Gymnasium Floor

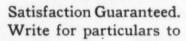
By Using



NON-SLIPPERY, NON-STICKY, SAFE

Makes the ideal surface for all gymnasium activities because it is attractive and clean. It combines the ideas of varnish and liquid floor wax without the bad features of either, and is

Applied With A Mop





CONTINENTAL CHEMICAL CORPORATION

Watseka, Illinois, U. S. A.

PRINTING SERVICE

TO SCHOOLS

The Cannon Printing Co. is an organization with the knowledge, equipment and experience to render efficient, reliable and satisfactory service to schools.

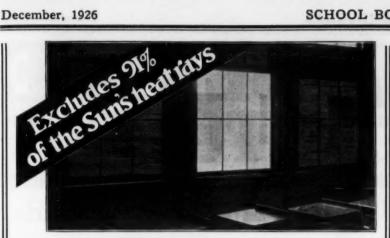
Quality in set up and printing of Stationery, Forms and Blanks, Accounting Forms, Reports, High School Year Books, Bulletins and School Papers assured, together with prompt delivery at moderate prices. Consider these factors when ordering printing.

Consult with us about your school printing needs and ask for estimates. This service does not place you under any obligation.

CANNON PRINTING COMPANY

131-133-135 Michigan St.,

Milwaukee, Wis.





INSURE SCHOOL ROOM COMFORT -

On all new construction, equip your schools with Aerolux Aluminized Window Shades. Aluminized Shades reflect back through the windows 91% of the sun's heat rays. Keep sun exposed rooms 10° to 15° cooler. Produce better lighting. Eliminate glare. Diffuse light rays entering the room. Reflect interior light, Aerolux wood splint construction permits free, natural ventilation. These shades are adaptable to wood or steel sash windows up to 20 ft. wide. Fabric guaranteed for 10 years. Aluminized and stain finishes. Engineers will study your requirements. Return attached coupon for complete information.

THE AEROSHADE COMPANY, 2673 Oakland Ave., Waukesha, Wis. Gentlemen—Please send me your catalog containing complete information about Aerolux Aluminized Window Shades. Address

School..... Position.....



BRUCE'S School Architecture Library

consists of

GRADE SCHOOL BUILDINGS, Book Two, Bruce

HIGH SCHOOL BUILDINGS, Vol. II, Bruce

These books are of invaluable aid to the architect engaged in school house planning. Both books contain numerous photographic illustrations of floor plans of school buildings, designed by the foremost school house architects of the United States.

MECHANICAL EQUIPMENT OF SCHOOL BUILDINGS, Alt

For the architect and school board desirous of having school buildings equipped with most efficient and economical mechanical and sanitary appliances. Illustrations include photographs and complete diagrams and plans.

SCHOOL BONDS, Fowlkes

For the architect who is consulted about school projects, this book defines in detail, the methods of financing school construction programs, financial and legal nature of school bonds, etc.



The Bruce Publishing Co.

312 Montgomery Bldg., Milwaukee, Wis.



You Receive Full Value When You

LAGS

Sterling and Defiance

All Wool Double Warp Bunting

Two Ply Cotton Bunting

THE FLAGS THAT GIVE SERVICE

Sold by dealers everywhere

MANUFACTURED ONLY BY

JIN &

Fifth Ave. at Sixteenth St.

The Largest Flag House in the World

FEDERAL, STATE and MUNICIPAL GOVERNMENTS use more flags made of STERLING and DEFIANCE buntings than all other brands combined.

Scenery

Asbestos curtains, Velour curtains

and

Stage scenery for your Auditorium stage.

Twenty years of experience in equipping High Schools has placed us in a position to know the particular requirements for your stage.

> Write us for further information or request call from our representative.

Twin City Scenic Company

2819 Nicollet Ave., Minneapolis, Minn.

2310 Cass Ave., Detroit, Mich.

MILWAUKEE DUSTLESS FLOOR BRUSH

FREE TRIAL

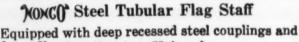
Made for School Floors

- Here is a brush your janitor will like to use. It is made to get the dust under school desks and in corners, without strewing additional ma-terial on the floor to be swept up.
- Kerosene or Arbitrin (an inexpensive cleaning fluid made in our own laboratories) rolls the dust into a sweeping compound no dust to settle on desk tops and window ledges.
- 3. Leaves the floor dry-preserves the wood-and eliminates mopping.
- The adjustable handle is reversible, allowing both sides of the bristles to wear evenly.

MILWAUKEE DUSTLESS BRUSH CO.

102-108 - 22ND STREET

:: MILWAUKEE, WISCONSIN



NOXCO Ball Bearing Halyard Carrier, so that flag flies free, instead of wrapping around Flag Staff.

Can be furnished in any height. Write for prices and information how to erect.

N. O. Nelson Mfg. Co.

St. Louis, Mo.

os Angeles, Calif, Pueblo, Colo. alt Lake City, Utah

Memphis, Tenn. Houston, Tex. Birmingham, Ala.

Factories

Edwardsville, Ill.

Branches

Insist that Your New Desks be Equipped with TANNEWITZ SANITARY INK-WELLS

They Possess 7 Definite Superiorities

1—Made of heavy material—heavily nick-eled or rubberized to prevent corrosion. 2—Unbreakable. 3—Spring barrel protects glass ink con-tainer. 4—Unaffected by the shrinking or swelling of desk tops. 5—Locks permanently in desk. 6—Glass ink container has no lugs to chip or break off and is easy to clean. 7—Eco-nomical—holds just the proper amount of ink—not enough to become thick and unusable.

Write for free sample for inspection.

THE TANNEWITZ WORKS
FRONT AVE., GRAND RAPIDS, MICH.

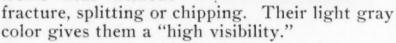
SHOWER

NON-ABSORBENT, FLAME-RESISTANT, PERMANENT

"Safety Plus" Stair Treads

Stair treads and landings of Alberene Stone have a smooth, but "toothed," surface that neither slips nor grips and gives an equally secure footing wet or dry.

In case of fire, they stand the most extreme heat without



They wear smoothly, evenly, and far more slowly than other natural stone or composition

ASK US FOR THE CATALOG OF ALBERENE STONE FOR ARCHITECTURAL PURPOSES.

ALBERENE STONE COMPANY 153 WEST 23rd STREET, NEW YORK Baltimore Boston Buffalo Chicago Cleveland Newark Philadelphia Pittsburgh Richmond St. Louis

TO PLAN FOR NEXT SEMESTER.

INSIST ON ALL NEW STUDENTS USING THE DUDLEY-THE STANDARD SCHOOL LOCKER LOCK OF AMERICA.



The Dudley Combination Lock assures you of positive locker protection because it is both strong and pick-proof. A Master Chart gives you complete control over every lock used.

Our easy financing plan enables you to get all the Dudley Combination Locks you need without a cent of cost to your school.

Send today for detailed plan, and sample Dudley Lock for free exami-

TRIPLE METALS CORPORATION
DEPARTMENT No. 16
107 N. Wacker Drive

Chicago, Illinois



FOR EFFECTIVE VENTILATION!



For greatest efficiency in school work and from the standpoint of healthfulness, school-children must have plenty of fresh air. The best assurance that class rooms will receive proper ventilation is an easy and convenient means for lowering and raising the top window sash.

"NoPole" Top Sash Operators lower and raise the top sash of

windows by engagement with top sash. the bottom sash, and yet there is no interference when it is desired to operate the lower sash independently.

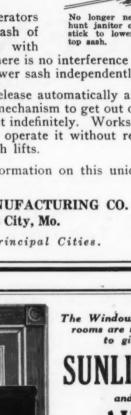
'NoPoles" engage and release automatically and have no springs, gears or other mechanism to get out of order. Made of solid brass and last indefinitely. Works so simply and easily a child can operate it without removing fingers from the lower sash lifts.

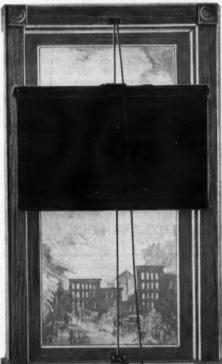
Write for complete information on this unique and economical device.

> BLASTEEL MANUFACTURING CO. Kansas City, Mo.

> > Agents in Principal Cities.







The Windows in your rooms are installed to give

Are you sure that these two essentials are prop-erly controlled and that you are getting the full efficiency of the open-

MEFCO SHADE **ADJUSTERS**

Provide

Correct Distribution of Light.

Proper Ventilation without the distraction of flapping shades and the glare of unshaded windows.

Extreme Simplicity of Installation and Operation.

Maximum Protection to the Shade with Practical Indestructibility

MEFCO is the Perfect Window Shade Fixture. Furnished either with or without shades, complete with cord, pulleys, and screws, ready for installation. Prices upon application.

Let us recommend the proper installation for your building.

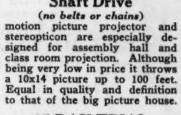
METAL FORMING CORPORATION

ELKHART, INDIANA

Assembly Hall MOTION PICTURE Projection

demands professional results HOLMES

Shaft Drive



15 DAY TRIAL

Compare it with any other make if not perfectly satisfactory return it and your money will be cheerfully refunded. Many exclusive mechanical features, in point of ease of operation, long life safety, adjustable take up, focus adjustment, simplicity throughout. IT HAS NO EQUAL.

EQUAL.
That's Why the United States
Navy is using 25 Machines. 51
being used by Hollywood's most
famous celebrities, directors and

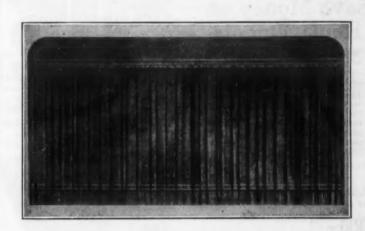
Professional quality with portability. Weight 44 pounds. Can be operated from any light system, farm lighting included.

Write for interesting details and list of educational films.

OLMES PROJECTOR COMPANY

1640 N. Halsted Street

Chicago, Ill.



SCENERY and STAGE **EQUIPMENT**

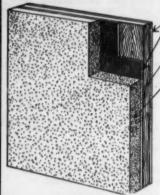
Rigging Lighting Scenery Draperies Installation Fire Curtains Picture Screens Picture Settings Portable Stages Elizabethan Textile Sets Lee Lash Curtain Tracks

LEE LASH STUDIOS

(Established 1892)

MOUNT VERNON, N. Y.





WOOD

CORK COMPOSITION "STANDARD" CORK

Bulletin Board THE BEST

BY ANY TEST

Practical for display purposes in halls and over blackboards in schoolrooms. Easily installed in old or new buildings.

USEFUL, ATTRACTIVE and PERMANENT We Manufacture All Sizes. Write for Sample.

STANDARD BLACKBOARD CO.

ST. LOUIS, MO.

Save Money on Replacements

Each year hundreds more schools are standardizing on the U. S. Inkwell, both for replacements and for new desks.

The U. S. Inkwell is noiseless— easily installed — dustproof. It fits any school deek. It costs little, and reduces upkeep ex-pense. Avoid inkwell trouble by specifying "U. S." on inkwell erders.

Order from your school sup-ply jobber, or direct from us.

U. S. INKWELL COMPANY 410 S. W. 9th St., Des Moines, Iowa

FREE Deak Inkwell—contains both sizes of the U. S. Inkwell. Fras to any interested school official. Write today for yours.





ELECTRICALLY OPERATED, AUTOMATIC GAS MACHINE Requires No Attention.

Write to us for list of colleges and high schools using our machine. Illustrated Catalogue Will Be Sent on Request.

MATTHEWS GAS MACHINE CO. CHICAGO, ILL.



This Machine Will Automatically Produce

GAS

For your lab-oratories and Domestic Science Department. In use in hundreds of educa-tional institu-tions through-



SCENERY

COMPLETE STAGE EQUIPMENT

Velour Curtains — Cycloramas **Draperies**

"IF IT'S USED ON A STAGE—WE CAN FURNISH IT"

ACME SCENIC STUDIOS

2919-21 W. Van Buren St.

Chicago, Ill.

THE IMPROVED "CLICK SYSTEM" "MASTER SPECIAL" KEYLESS PADLOCK

on Achievement in Economy and Utility. Made up special for ockers and Boxes, in any degree of security required.



The intense popularity of this padlock for School installations is due to its exceptional service features—economy, durability, efficiency and convenience. It is operable in the dark as readily as in the light—a feature essential to successful performance on lockers. Developed through years of intensive study of the special requirements of locker systems in schools.

Installations of "Click System" padlocks ranging from 50 to over 30,000 are achieving real Service—usually paying small initial cost in saving on lost keys. Buy experience and service—it's cheaper.

Sample and Special proposition to Operating School Officials, on request.

THE J. B. MILLER KEYLESS LOCK CO. KENT, OHIO, U. S. A.

FEDERAL

STEEL LOCKERS AND SHELVING

are made rightand priced moderately-



Federal Steel **Fixture** Company

Chicago





Equip Your Schools with

FEDERAL

Steel Lockers and Shelving

TEACHERS' AGENCIES NATIONAL ASSOCIATION OF



Teacher Agencies

The Membership of the National Association of Teachers' Agencies includes only such Agencies as are of established reputation, and directed by competent Managers, who have the best interests of Education at heart. All members are required to subscribe to the Constitution, Platform and Code of Ethics. Each member is under pledge to do his utmost to promote the interests of his clients, consistent with his primary duty to American Education. duty to American Education. Agencies listed below are members of the Association.

NATIONAL ASSOCIATION OF TEACHERS' AGENCIES.



PROFESSIONAL TEACHER PLACEMENT SERVICE

Albany Teachers' Agency, Inc.

74 Chapel Street, Albany, N. Y. Est. 1885

Provides Schools and Colleges with Competent Teachers.
Assists Teachers in Securing Positions.

Willard W. Andrews President

F. Wayland Bailey Secretary

Hartford, Conn.

The Educators' Bureau

W. A. Myers, Manager Indianapolis, Ind. 322 Occidental Bldg.

Efficient, professional, placement service

TEACHERS and SCHOOL OFFICIALS No charge to school officials Some of the very best teachers of the land are found in the territory covered by the Ohio Valley Teacher's Agency

A. J. JOLLY, Founder

MENTOR, KY.

The Parker Teachers' Agency

22nd Year

Bryant Teachers Bureau, Inc.

711 Witherspoon Building, Philadelphia 1213 Flatiron Building, New York City

OUTSTANDING PLACEMENT SERVICE

Interstate Teachers Agency

T. H. Armstrong, Mgr.

500 Duffy-Powers Building Rochester, New York

Twenty years experience. Write for information

Placed teachers in twenty-six different states last year.

The Midland Schools Teachers' Agency 405 Youngerman Building Des Moines, Iowa.

Situated in the heart of the land of opportunity for teachers.

H. A. Mitchell

Proprietor

State licensed and regulated Willard N. Parker, Manager 14 So. Carroll St. Madison, Wis.

Sabins' Educational Exchange

33 years of successful experience in teacher placement work Prompt, Efficient and Reliable Service 412 Shops Building Des Moir E. T. HOUSH, Manager ANNA ALLEE, Assistant Manager Des Moines, Iowa

"Distinguished Personnel Service"

The Cary Teachers' Agency C. Wilbur Cary, Manager

The Clark Teachers' Agency

Flatiron Building New York City

E. L. GREGG, Mgr.

Seven Offices - Free Registration in ALL

Cooperative Teachers' Agency 302 Hurst Bldg., Buffalo, N. Y. L. E. PORTER, Mgr.

"The right teacher in the right place."
ege—Normal School—High School—Grades. Service free to school officials.

The Davis-Stewart School Service

W. T. DAVIS, Manager Successor to the Stewart School Service 10th year

Has the Confidence of Nebraska School Men Try us.

LINCOLN

NEBRASKA

The purpose of the National Association of Teachers' Agencies is to enhance the value of the service of teachers' agencies to educational institutions and to teachers.

Teachers' Agencies are an educational necessity as a means of bringing into contact the purchasers of teaching qualifications and those who have such qualifications to sell.

Schermerhorn Teachers' Agency
Established 1855
CHARLES W. MULFORD, Prop.
366 Fifth Ave., between 34th & 35th Sts, NEW YORK
Branch Offices: 1836 Euclid Ave., Cleveland, Ohio.

A Superior Agency for Superior People. We Register Only Reliable Candidates. Services Free to School Officials.

"The Agency of Quick Service and Efficiency"

Western Teachers' Exchange

Our Methods Are MODERN and PROFESSIONAL Gas and Electric Bldg., Denver, Colo.

Pacific Division, Address Denver Office

We place teachers in the leading schools and colleges of many states.

H. D. Yates Teachers' Bureau

1531 Arcade Building St. Louis, Missouri

VISUAL INSTRUCTION

Daylight Lanterns Stereographs

Lantern Slides Stereoscopes

A VISUAL AID FOR EVERY VISUAL NEED

SOCIAL SCIENCES HIGH SCHOOL SCIENCES PRIMARY READING MAP SLIDES

Write for further information

KEYSTONE VIEW CO.

MEADVILLE, PENN'A



For Character-Building

THE ATLANTIC READERS EDITED BY DR. RANDALL J. CONDON Superintendent of Schools, Cincinnati, Ohio President of the N. E. A. Department of Superintendence

BOOK I THE UNDERSTANDING PRINCE BOOK II HIGH AND FAR BOOK IV THE WONDERFUL TUNE BOOK V THE GREAT CONQUEST BOOK V OUTWARD BOUND

(Books IV and V are in press)

These new Readers are the outgrowth of Dr. Condon's profound personal conviction that "soul culture is the most important and most necessary phase of education, and that the development of personal character is the thing of greatest concern."

Designed primarily as basal texts, these books are filled with material of ethical importance, most of it being new to school readers. They are also full of the natural interests of developing childhood. Even the notes make delightful reading. Narrative, biography, description, nature studies, essays, letters, quotations, inscriptions, and truly distinctive poetry have been selected by Dr. Condon, always under the certainty, with Emerson, that "character is higher than intellect."

Mailing Price of Each Volume, 85 cents

LITTLE, BROWN & COMPANY 34 BEACON ST., BOSTON 221 E. 20TH ST., CHCAGO



SCENIC STUDIOS

SCENERY AND STAGE EQUIPMENT

VELOUR CURTAINS AND CYCLORAMAS

The Wm. Beck & Sons Co.

Established 1856

Highland cor. Dorchester Ave.

Cincinnati, Ohio

SILICATE VENEER PLATE

Why don't you purchase the best goods for your school? Our revolving blackboards and roll blackboards have been in constant use in all the Public Schools in New York, and the principal cities for thirty-six years, which is a sufficient guarantee. Send for our illustrated catalog and discount sheet and compare prices with other manufacturers.

N. Y. Silicate Book Slate Co. 20-22-24 Vesey Street NEW YORK



Two Styles-Both Modern

You can get either the flat roof, parapet wall type or the gable roof in any model of the well-known

AMERICAN PORTABLE SCHOOLS

The construction is high grade throughout— special ventilating Austral Type windows; Insulite Wallboard lining, 2½" clear vertical grain finishing flooring.

Wire at our expense for catalog and prices.

American Portable House Company

601 Alaska St.

WASHINGTON.



Bossert Schools

Are Warm in Winter and Cool in Summer

We are equipped to furnish any size building on short notice. Prices of same depend on requirements and State Laws—but in every case are the lowest for quality of material supplied. Remember, this is not a cut lumber proposition, and the cost of erecting is a very small item. While not essential, as any unskilled labor can do it, we will, if you desire, arrange to erect all buildings. Buildings can be taken down and re-erected any number of times without marring a single feature.

We have made portable school houses for other people for over 25 years. Now us can buy Bossert School Houses with all our new patents and improvements rect from us and save money for your school board.

Write us full requirements and we will send details of cost of building completely erected.

LOUIS BOSSERT & SONS, Inc.

Builders of School Houses for over 25 years.

Brooklyn, N. Y. 1323 Grand Street

> SCENERY UALITY

KANSAS CITY SCENIC CO. Since 1887 KANSAS CITY, MO.



HONOR ROLLS—MEMORIAL TABLETS-MODELED, CAST AND FINISHED BY

ALBERT RUSSELL AND SONS CO.
125 MERRIMACK ST. NEWBURYPORT, MASS.





PROFESSIONAL TEACHER PLACEMENT SERVICE

FISK TEACHERS AGENCY, 28 E. Jackson Blvd., Chicago. For many years a leader. Its code of ethics established a new standard among teachers agencies. Now doubled its space.

AMERICAN COLLEGE BUREAU, Chicago Temple, Chicago. College and university work only. Operates on cost basis.

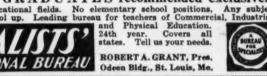
NATIONAL TEACHERS AGENCY, Southern Building, Washington, D. C. A general teacher placement bureau. National in scope.

EDUCATION SERVICE, 811-823 Steger Bldg., Chicago; 1256 Amsterdam Ave., New York. Special facilities for supplying teachers in every department of public school work; also business managers, purchasing agents, registrars, private secretaries, librarians, cafeteria directors and trained nurses. Its work includes executive positions-superintendencies, principalships and supervisorships.

The above organizations, comprising the largest teacher placement work in the United States under one management, are under the direction of E. E. Olp, 28 E. Jackson Boulevard, Chicago.

OLLEGE GRADUATES recommended exclusively





TEACHERS' AGENCY 1020 McGEE ST.

KANSAS CITY. MO. J. A. DEVLIN, MANAGER E. O. Fisk Agencies.

TEACHERS WANTED
For Schools and Colleges—Every day of the year
NATIONAL TEACHERS' AGENCY, INC.
OK, Gen. Mgr.
HOME OFFICE—Philadelphia, Pa.

D. H. COOK, Gen. Mgr.

H. COOK, Gen. Mgr.

—BRANCH OFFICES—
Pittsburgh, Pa.; Indianapolis, Ind.; Syracuse, N. Y.; Northampton, Mass.
No charge to employers—No charge to candidates till elected.
Positions waiting—correspondence confidential.

ROCKY MT. TEACHERS' AGENCY

The Pratt Teachers' Agency

No. 70 FIFTH AVENUE, NEW YORK Receives calls at all seasons for college and normal graduates, specialists, and other teachers in colleges, public and private schools, in all parts of the country. Advises parents about schools.

Chicago, Illinois

ALBERT 25 E. Jackson Boulevard, Chicage, Illine
Established 1885 — Still under same active management. Best Schools and Colleges
permanent clients. Best qualified men and women on our available list. Prompt service.
Other Offices — New York. Denver, Spokane.

WE SPECIALIZE IN SERVICE

Brains, Character, Personality and Teaching Power. After visiting State and District Educational meetings from Minnesota and Dakota south to Arisona, advertising widely, visiting grade and high schools in twenty states and interviewing many thousands, we have built up a remarkable list of superior teachers to whom we accord WESTERN REFERENCE ENDORSEMENT. Most of the higher institutions from Pennsylvania on westward, as well as thousands of city and town schools, use our service year by year, with the same certainty of securing satisfactory results they expect from their National Banks. Fifteen hundred square feet of office space, equipped with every modern device for doing efficient work, including A FINDEX BUILT TO ORDER, enables us to give you superior teacher service from Kindergarten to University, but not including rural teachers. OUR THIRTEENTH YEAR OF RECOMMENDING ONLY WHEN ASKED TO DO SO BY EMPLOYERS.

A distinctive Service for Educators who appreciate
Ethical Standards.

THE WESTERN REFERENCE AND BOND ASSOCIATION

499 Gates Bldg.

Kansas City, Missouri

SOUTHERN TEACHERS' AGENCY

Columbia, S. C. Richmond, Va.

Chattanooga, Tenn Louisville, Ky.

Continuous registration in four offices No advance fees
Covers Middle Atlantic, South and Middle West

THE CONTINENTAL TEACHERS' AGENCY **BOWLING GREEN, KENTUCKY**

has for thirty-six years been serving school officials and teachers in every state in the Union.

A NEW PALMER METHOD HANDWRITING MANUAL FOR THIRD AND FOURTH GRADES

This is another self-teaching text-book, and an IMPORTANT LINK IN THE PALMER METHOD SERIES. The instructional part of this new book alternates between teachers and pupils, with such simplified language in the paragraphs to pupils as will fit the understanding of those in third and fourth grades.

The simplified drills lead directly to movement application in making letters

and writing words and sentences.

The diagrams of main and connective slant; the three elements and their applications to capitals, are some of the new outstanding practical features.

Measuring the Process and Product

Measuring the Process and Product

The last seven pages of this new text-book of Palmer Method Handwriting for third and fourth grade teachers and pupils deal specifically with the scientific plan of measuring the process and product of muscular movement development and its application to writing. There are photo-engraved specimens (3 each) from third and fourth grade pupils for purposes of comparison. This is an entirely new feature in a text-book on practical handwriting and is making a strong appeal to teachers. Retail price 15 cents with a special discount to schools.

A FREE SAMPLE COPY will be sent postpaid to any superintendent, principal or teacher who will write to our nearest office for it.

THE A. N. PALMER COMPANY

55 Fifth Ave., New York, N. Y. Palmer Building, Cedar Rapids, Iowa.

2128 Calumet Ave., Chicago, Ill. Pittock Building, Portland, Oregon

Classified Wants

DESKS FOR SALE

Stationary pupils' desks and rears in very good condition: 1416 No. 6 Desks, 187 No. 6 Rears. If interested write to Board of Education, Minneapolis, Minn.

MAGAZINES WANTED

Will pay 25 cents for copies of the July and October, 1926, issues of the American School Board Journal. Address Subscription Department, American School Board Journal, 129 Michigan St., Milwaukee, Wis.

POSITIONS OPEN

(A) Health Nurse wanted in Middle West city of 2,000, capable of carrying physical health and personal hygiene with high school girls. School has 500 pupils, 200 in senior high. \$150 a month for school term. (B) Public Health Nurse wanted for Middle West city of 8,000. Salary \$150 a month; mostly school work. (C) Illinois opening for experienced school nurse qualfiied to teach in Illinois. Salary \$140. No. 1149 Aznoe's Cen-tral Registry for Nurses, 30 North Michigan, Chicago.

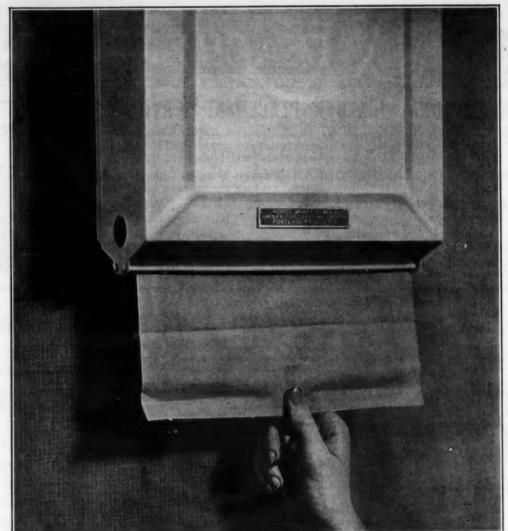
POSITIONS WANTED

(A) CAFETERIA DIRECTOR appointment wanted by B.S. Indiana University; age 25; one year's excellent experience. (B) Opening as Assistant Dietitian in School or College desired by young Canadian woman, experienced in Normal School; reasonable salary. (C) B.S. with post-graduate training, ten years' varied dietetic experience, desires Western position, Welfare, Public Health, Tuberculosis or Children's work. 31; asks \$125. No. 1183 Aznoe's Central Registry for Nurses, 30 North Michigan, Chicago.

THIS convenient cabinet keeps Nibroc Towels clean and dust-free, and serves them singly.

Easy to fill-

Merely open front, which is hinged at bottom. Slip the package of 250 towels into place. Draw out wrapper. Lock cabinet. That's all.



Nibroc-a paper towel that seems made for school children

If the Nibroc Towel were made esbe better suited to school use.

The Nibroc fibre is highly absorbent—takes up the last drop of moisture. It doesn't lint-doesn't tear easily—doesn't get soggy. You can wipe hands and face vigorously with a Nibroc Towel. It is agreeable to use, and leaves a pleasant feeling that encourages children to be clean.

The Nibroc Towel doesn't roughen the hands.

It means a fresh, clean towel for every child. Used once, then thrown

away, it doesn't spread colds pecially to your order, it could not through the class, as a common towel is apt to. It is economical, too. The Nibroc Cabinet serves one at a time, enough to thoroughly dry both face and hands.

> You yourself will enjoy using the Nibroc Towel. Let us send you enough samples to make a thorough test in your office or home.

> The manufacturers, Brown Company, Portland, Maine, will be pleased to mail to members of School Boards or of any educational institution a sample pack of Nibroc Towels.



AIR CONDITIONING
Air Conditioning & Eng. Co.
Buckeye Blower Company
Buffalo Forge Company
Nelson Corporation, The Herman

ARCHITECTS
(See Schoolhouse Architects'
Directory)

ASH HOISTS Gillis & Geo

Gillis & Geoghegan

AUDITORIUM SEATING

American Seating Company

Arlington Seating Company

Derby & Company, Inc., P.

Heywood-Wakefield Co.

Kundta Company, The Theodor

Peabody School Furniture Co.

Steel Furniture Company

Tellis Steel Furniture Company

BASEMENT SASH, STEEL Detroit Steel Products Con BASEMENT WINDOWS, STEEL
Detroit Steel Products Company

BENCH LEGS
Angle Steel Stool Company BLACKBOARD CLEANER Mohawk Slate Machine Company

Mohawk Siste Machine Com BLACKBOARDS—MFRD. Beckley-Cardy Company N. Y. Silicate Book Siste Co. Standard Blackboard Compan Weber Costello Company

Weber Costello Company
BLACKBOARD-SLATE
Natural Slate Blackboard Co.
Penna. Structural Slate Co.
BLEACHERS
Circle A Products Corp.
Wayne Iron Works

BOILERS
Frost Mfg. Company, The
General Boilers Company
Heggie Simplex Boiler Cor
Kewanee Boiler Company

BOOK CASES Rand Kardex Bureau Peterson & Company, Leonard

BOOK COVERS Holden Patent Book Cover Co. Walraven Book Cover Co., A. T. BOOKKEEPING MACHINES Remington Typewriter Comp

Remington Typewriter Company
BOOK PUBLISHERS
American Book Company
Bruce Publishing Co.
Gregg Publishing Company
Harter School Supply Company
Heath & Co., D. C.
Houghton, Mifflin Co.
Laidlaw Brothers
Little, Brown and Company
Longmans, Green & Company
Merriam Co., G. & C.
Newson & Company
Palmer Company, A. N.
Winston Co., The John C.
BRUSHES

BRUSHES
Milwaukee Dustless Brush Co.
Palmer Company, The Palmer Company, The
BUILDING MATERIALS
Asbestos Buildings Company
Detroit Steel Products Company
Durion Co., Inc., The
Indiana Limestone Company
Milwaukee Corrugating Company
Sterling Products Co., The
Structural Slate Company
Truscon Steel Company

BULLETIN BOARDS
Blasteel Manufacturing Co.

BUSES Graham Brothers Graham Brothers

CAFETERIA EQUIPMENT
Angle Steel Stool Company
Blickman, Inc., S.
Dougherty & Sons, Inc., W. F.
Plek & Company, Albert
Sani Products Co., The
Van Range Co., John

CALCULATING MACHINES
Monroe Calculating Machine Co.

CHAIRS
Angle Steel Stool Company
Beacon Steel Furniture Company
Clarin Manufacturing Co.
Derby & Company, Inc., P.
Royal Metal Mfg. Co.

CHARTS

CHARTS
Nystrom & Co., A. J.
Union School Furnishing Company
CLEANING COMPOUNDS
Continental Chemical Corporation
CLOCKS—PROGRAM
Landis Eng. & Mfg. Co.
Standard Electric Time Co.
COMMERCIAL DEPARTMENT
FURNITURE
Hamilton Mfg. Co., The
CONSERVATORIES
Lord & Burnham Company
CORK TILE AND CORK CARPET
Bonded Floors Co., Inc.

COOKING APPARATUS
Dougherty & Sons, Inc., W. F.

CRAYON
American Crayon Company
Beckley-Cardy Company
Binney & Smith
National Crayon Co.
Weber Costello Company

CRAYON TROUGHS
Dudfield Manufacturing Co. DAMP-PROOFING Vortex Mfg. Com

DEAFENING QUILT Cabot, Inc., Samuel DESKS-OFFICE
Gunn Furniture Co.
Imperial Desk Comp

DISHWASHERS
Colt's Patent Fire Arms Mfg. Co.

Colt's Patent Fire Arms Mfg. Co.
DISINFECTANTS
Continental Chemical Corporation
Palmer Company, The
DISPLAY FIXTURES
Multiplex Display Fixture Co.

Multiplex Display Fixture Co.

DOMESTIC SCIENCE EQUIP.
Christiansen, C.
Cleveland Range Co.
Dougherty & Sons, Inc., W. F.
Freeport Gas Machine Co.
Kewaunee Mfg. Co.
Peterson & Co., Leonard
Pick & Co., Albert
Sheldon & Co., E. H.
Van Range Co., John

DOOR CHECKS
Norton Door Closer Co.
Sargent & Company DOORS, STEEL-FIREPROOF Detroit Steel Products Company

DRAFTING DEPARTMENT
FURNITURE
Angle Steel Stool Company
Christiansen, C.
Hamilton Mfg. Co., The
Kewaunee Mfg. Company
New York Blue Print Paper Co.
Sheldon & Co., E. H.

Sheldon & Co., E. H.

DRINKING FOUNTAINS
Century Brass Works, Inc.
Clow & Sons, James B.
Imperial Brass Mfg. Company
Murdock Mfg. & Supply Co., The
Nelson Mfg. Company, N. O.
Puro Sanitary Drink, Fount Co.
Rundle-Spence Mfg. Company
Taylor Company, Halsey W.

ELECTRICAL EQUIPMENT Graybar Electric Company

ERASERS
Beckley-Cardy Compar
Palmer Company, The
Weber Costello Co.

ERASER CLEANERS Lynn Company, Jan

FENCES
American Fence Construction Co.
Anchor Post Iron Works
Cyclone Fence Co.
Page Fence & Wire Prod. Assn.
Stewart Iron Works Co., The
Wayne Iron Works

wayne from works
FILING CABINETS
Shaw-Walker
Yawman & Erbe Mfg. Company
FILING SYSTEMS
Rand Kardex Bureau

FINANCES McNear & Co., C. W.

FIRE ESCAPES
Logan Co. (Formerly Dow Co.)
Potter Manufacturing Corp.

FIRE EXIT LATCHES
Potter Manufacturing Corp.
Sargent & Company
Steffen-Amberg Company
Vonnegut Hardware Co.

FIRE PROOF DOORS
Detroit Steel Products Co.
FIREPROOFING MATERIALS Asbestos Buildings Company Milwaukee Corrugating Company

FLAGS Annin & Co. FLAG POLES Nelson Mfg. Co., N. O.

PLOORING
Bonded Floors Co., Inc.
Carter-Bloxonend Flooring Co.
Maple Flooring Mfrs. Ass'n.
Muller, Inc., Franklyn R.
Oak Flooring Bureau
Stedman Products Company

PLOORING—COMPOSITION Bonded Floors Co., Inc. Stedman Products Co.

FLOOR COVERING
Bonded Floors Co., Inc.
Heywood-Wakefield Co.
Muller, Inc., Franklyn R.
Stedman Products Co.

FLOOR FINISHES
Continental Chemical Corporation

FLOORING—MASTIC
Moulding Brick Co., Thos.

LINOLEUMS Bonded Floors Co., Inc. FLOOR TILE
Bonded Floors Co., Inc.
Stedman Products Co.

FLUSH VALVES
Haas Company, Philip
Clow & Sons, James B.

Haas Company, Philip Clow & Sons, James B. FOLDING PARTITIONS Hamlin, Irving Wilson Corp., Jas. G. FURNITURE American Seating Co. Angle Steel Stool Company Arlington Seating Company Beacon Steel Furniture Company Columbia School Supply Company Beacon Steel Furniture Company Derby & Company, Inc., P. Detroit School Equipment Co. Gunn Furniture Company Hamilton Mfg. Co., The Heywood-Wakefield Co. Imperial Desk Company Kewaunee Mfg. Company Kundts Company, The Theo. National School Equipment Co. New York Blue Print Paper Co. Peabody School Furniture Co. Rand Kardex Bureau Readsboro Chair Company Royal Metal Mfg. Co. Standard School Equipment Co. Steel Furniture Company Union School Furnishing Co. GAS MACHINES

GAS MACHINES
Freeport Gas Machine Co.
Matthews Gas Machine Co

GLASS
Manufacturers Glass Company GLASS ENCLOSURES
Lord & Burnham Company

GLOBES
Nystrom & Co., A. J.
Rand, McNally & Company GRANDSTANDS Wayne Iron Works

GREENHOUSES
Lord & Burnham Company GYMNASIUM APPARATUS
Chicago Gymnasium Equip. Co.
Marietta Mfg. Co.
Medart Mfg. Co., Fred
Narragansett Machine Company

GYMNASIUM FLOORING Carter-Bloxonend Flooring Co.

Carter-Bloxonend Flooring Co,

HEATING BYSTEMS

Air Conditioning & Eng. Co.

Buckeye Blower Co.

Buffalo Forge Company
Clow & Sons, Jas. B. ("Gasteam")

Dunham Company, C. A.

Frost Mfg. Company, The
General Boilers Company
Heggie Simplex Boiler Company
Nelson Corp., The Herman
Nesbitt, Inc., John J.

Peerless Unit Vent. Co., Inc.

Webster & Co., Warren
Young Pump Company

HYDRANTS

HYDRANTS Murdock Mfg. & Supply Co., The

INK WELLS
Squires Inkwell Company
Tannewitz Works, The
U. S. Inkwell Company

U. S. Inkwell Company
JANITORS' SUPPLIES
Continental Chemical Corporation
Dougherty & Sons, Inc., W. F.
Milwaukee Dustless Brush Co.
Palmer Company, The
Pick & Co., Albert
Van Range Co., John

Van Range Co., John

LABORATORY FURNITURE
Alberene Stone Company
Angle Steel Stool Company
Columbia School Supply Company
Kewaunee Mfg. Company
Peterson & Co., Leonard
Sheldon & Company, E. H.

LABORATORY SUPPLIES
Leitz, Inc., E.

LANTERN SLIDES

Keystone View Co.

LAUNDRY EQUIPMENT
American Laundry Machinery Co.
LIBRARY FURNITURE
Hamilton Mfg. Co., The
Peterson & Company, Leonard
Rand Kardex Bureau
Yawman & Erbe Mfg. Company
LIGHTING FIXTURES
Beardslee Chandeller Mfg. Co.
Graybar Electric Company
Guth Compmany, Edwin F.
Westinghouse Elec. & Mfg. Co.
LIQUID FLOOR HARDENER
Sonneborn Sons, L.

Sonneborn Sons, L.
LIQUID SOAP
Continental Chemical Corporation

LOCKERS

Berger Manufacturing Company
Durabilt Steel Locker Co.
Durand Steel Locker Co.
Federal Steel Fixture Co.
Lyon Metallic Mfg. Co.
Medart Mfg. Co., Fred
Narragansett Machine Company
Wilson Corp., Jas. G.
LOCKS—KEYLESS
Miller Keyless Lock Co., J. B.
Triple Metals Corporation
MATS

MATS
Wearproof Mat Company MAPS
Nystrom & Co., A. J.
Rand, McNally & Con

MEMORIAL TABLETS
Russell & Sons Co., Albert
METAL BLACKBOARD TRIM
Dudfield Manufacturing Co.

Budneid Manufacturing Co.

METAL LATH

Berger Manufacturing Company

Milwaukee Corrugating Company

METAL CHALK RAILS

Milwaukee Corrugating Company

MICROSCOPES
Leitz, Inc., E.
Spencer Lens Co

MODELLING CLAY Hammett Company, J. L.

Hammett Company, J. L.
MOTION PICTURES
Pathe Exchange, Inc.
MOTION PICTURE MACHINE
DeVry Corp.. The
Neighborhood Motion Pic. Service

PAINTS
Hockaday Company, The
Sterling Products Co., The
U. S. Gutta Percha Paint Co.
Vortex Mfg. Company

PAINT SPRAYING EQUIPMENT DeVilbiss Mfg. Co., The Vortex Mfg. Company

PAPER Fowler Paper Co., W. A. PANIC EXIT DEVICES
Potter Manufacturing Corp.
Steffens-Amberg Company
Vonnegut Hardware Company

PIANOS Aeolian Company, The Acolian Company, The
PLAYGROUND APPARATUS
Chicago Gymnasium Equip. Co.
Hill-Standard Company
Medart Mfg. Co., Fred
Mitchell Manufacturing Co.
Narragansett Machine Company
Potter Manufacturing Corp.

Potter Manufacturing Corp.

PLUMBING FIXTURES

Bradley Wash Fountain Company
Clow & Sons, James B.
Century Brass Works, Inc.
Duriron Co., Inc., The
Ebinger San. Mfg. Co., The D. A.
Haas Company, Philip
Hoffmann & Billings Mfg. Co.
Imperial Brass Mfg. Company
Nelson Mfg. Company, N. O.
Never-Split Seat Company
Rundle-Spence Mfg. Company
Vogel Company, Joseph A.
PORTABLE SCHOOLHOUSES

PORTABLE SCHOOLHOUSES
American Portable House Ce.
Armstrong Co., The
Asbestoe Buildings Co.
Bossert & Sons, Louis
Circle A Products Corporation
Mershon & Morley
Togan-Stiles Company

PRINTING SUPPLIES
Barnhart Bros. & Spindler

Barnhart Bros. & Spindler PROJECTION LANTERNS Spencer Lens Co. Trans-Lux Daylight Picture Screen Corp.

PROJECTORS
Holmes Projector Company PUBLIC ADDRESS SYSTEMS Graybar Electric Company

RANGES Cleveland Range Company, The

RECORD SYSTEMS Rand Kardex Bureau REINFORCED STEEL Berger Manufacturing Company

Berger Manufacturing Compan ROLLING PARTITIONS Acme Partition Company Wilson Corp., Jas. G. SAFETY STAIR TREADS American Abrasive Metals Co. SAFETY VAULTS Shaw-Walker

SASH OPERATING DEVICES.

STEEL Detroit Steel Products Company SASH, STEEL Detroit Steel Products Company

SASH, VENTILATING Detroit Steel Products Company

(Continued on Page 157)



If a giant lifted a Maple floor-

It would rise like a great, smooth, onepiece area of hardest wood—because every piece is side and end-matched to perfection—made for comfort and long wear.

Maple is remarkably hard, tough-fibred and tight-grained. It does not sliver, splinter or develop ridges. Feet that scrape and scuffle over the floor thousands of times a day simply polish Maple smoother and smoother. Practical tests show that Maple actually outwears stone.

Because of its permanent smoothness Maple, and its kindred woods, Beech and Birch, provide the easiest floors to keep clean. They offer no open lodging places for dust, dirt and germs to collect. These woods, moreover, afford firm anchorage for desks.

For these reasons Maple, Beech and Birch have been chosen for the floors of many of America's finest new school buildings.

Check these facts when you consult your architect. Your retail lumber dealer will quote you prices. For lasting comfort —for permanent satisfaction—for ultimate economy—use Maple, Beech or Birch for your schoolrooms, assembly halls, and corridor floors.

The Clear grade of Maple, Beech and Birch flooring shows some variation in color. To many lovers of woods this is an added attraction. The grade of Clear is the first quality and it makes the most durable and best appearing floor for any building, and we recommend it as the best grade to use.

The grade of No. 1, or second quality, is just as serviceable as the Clear grade and equally as desirable when the appearance is not a primary consideration.

Let our Service and Research Department assist you with your flooring problems. Write us.

> Our booklets, "Floors for Educational Buildings," and "How to Lay and Finish Maple, Beech and Birch Floors," contain information of value. A copy free upon request.

MAPLE FLOORING MANUFACTURERS ASSN. 1061 Stock Exchange Building, Chicago

-Guaranteed Floorings-

The letters MFMA on Maple, Beech or Birch flooring signify that the flooring is standardized and guaranteed by the Maple Flooring Manufacturers Association, whose members must attain and maintain the highest standards of manufacture and adhere to manufacturing

and grading rules which economically conserve these remarkable woods. This trade-mark is for your protection, Look for it on the flooring you use.

MEMA

Floor with Maple



(Continued from Page 155)

SCALES Continental Scale Works SCIENTIFIC APPARATUS
Knott Apparatus Co., L. E.
SCREENS—PICTURE
Trans-Lux Daylight Picture
Screen Corp. SCRUBBING EQUIPMENT
Continental Chemical Corporation
Finnell System, The SHADE ADJUSTER Metal Forming Corp. SHOWERS
Clow & Sons, James B.
Hoffmann & Billings Mfg. Co. SKYLIGHTS-METAL Milwaukee Corrugating Co. SPRAY-PAINTING EQUIPMENT DeVilbias Mfg. Co., The Vortex Mfg. Company Devilbus Mrg. Co., The
Vortex Mrg. Company

STAGE CURTAINS, EQUIPMENT
AND SCENERY
Acme Scenic Studios
Beck & Sons Co., The Wm.
Jackson Corp. A. P.
Kansas City Scenic Co.
Lee Lash Studios
Novelty Scenic Studios
Tiffin Scenic Studios
Twin City Scenic Company
Universal Scenic Studios, Inc.
Volland Scenic Studios, Inc.

STAIR TREADS
Alberene Stone Company
American Abrasive Metals Co.
Safety Stair Tread Co., The
Stedman Products Co.

STATIONERS
Blair Company, J. C.

STEEL CASINGS—Deers, Windews

Blair Company, J. C.

STEEL CASINGS—Doors, Windows
Milwaukee Corrugating Company

STEEL JOISTS Truscon Steel Company STEEL SASHES
Detroit Steel Products Company

STEEL STORAGE CABINETS
Durabilt Steel Locker Co.
Durand Steel Locker Company
Medart Mfg. Co., Fred STEEL WINDOWS
Detroit Steel Products Company

STOOLS, STEEL
Angle Steel Stool Company

TABLES
Derby & Company, Inc., P.
Gunn Furniture Company
Hamilton Mfg. Co., The
Rand Kardex Bureau
Rinehimer Bros. Mfg. Co.

TABLETS Blair Company, J. C.

TALKING MACHINES
Victor Talking Machine Co.
TEACHER AGENCIES
Natl. Assn. of Teacher Agencies
Teacher Agencies Directory TELEPHONE SYSTEMS Graybar Electric Company

TEMPERATURE REGULATION Buffalo Forge Company Johnson Service Company

TOILET PAPER AND FIXTURES
A. P. W. Paper Company
National Paper Products Co.
Palmer Company, The

Palmer Company, The
TOILET PARTITIONS
Clow & Sons, James B.
Mills Company, The
Sanymetal Products Company
Structural Slate Company
Vitrolite Company
Weis Mfg. Co., Henry

TOWELS

A. P. W. Paper Company
Bay West Paper Company
Brown Company
National Paper Products Co.
Palmer Co., The

TYPEWRITERS
Remington Typewriter Co.
Underwood Typewriter Company

TYPEWRITER SUPPLIES
Remington Typewriter Company VACUUM CLEANING SYSTEMS

Graybar Electric Company Invincible Vac. Cleaner Mfg. Co. Spencer Turbine Company, The

VACUUM PUMPS
Nash Engineering Company
Young Pump Company

VALVES—FITTINGS Clow & Sons, James B. VARNISHES
Sterling Products Co.
Valentine & Compan

VENTILATING SYSTEMS
Air Conditioning & Eng. Co.
Buckeye Blower Company
Buffalo Forge Company
Dunham Company, C. A.
Miwwaukee Corrugating Co.
Nelson Corp., The Herman
Nesbitt, Inc., John J.
Peerless Unit Vent. Co., Inc.
Young Pump Company
VENTILATORS
Allweather Ventilator Co., Inc.
Buffalo Forge Company
Globe Ventilator Company
Milwaukee Corrugating Co.
Peerless Unit Ventilation Co., Inc.
VOCATIONAL EQUIPMENT
Buffalo Forge Company
Christiansen, C.
Columbia School Supply Co.
Sheldon & Company, E. H.
WAINSCOTING
Stedman Products Co.
WARDHOHES
K-M Supply Company

WARDROHES K-M Supply Company Wilson Corp., Jas. G. WASTE PAPER BASKETS
National Vulcanised Fibre Co. WATER PURIFIERS Air Conditioning & Eng. Co. Clow & Sons, Jas. B. (R. U. V.)

WATER SYSTEMS
Myers & Bros. Co., F. E.
WEATHERSTRIPS
Athey Company, The
Chamberlin Metal Weatherst erstrip Co.

Chamberlin Metal Weatherstrip Co WINDOWS—ADJUSTABLE Austral Window Company Detroit Steel Products Company Truscon Steel Company Universal Window Company WINDOW FIXTURES Austral Window Company Columbia Mills, Inc. WIlliams Pivot Sash Company WINDOW CILARDS

WINDOW GUARDS
American Fence Construction Co.
Badger Wire & Iron Works
Logan Co. (Formerly Dow Co.)
Stewart Iron Works Co., The

WINDOWS—REVERSIBLE Austral Window Company

Detroit Steel Products Company Williams Pivot Sash Company WINDOW SHADE CLOTH Columbia Mills, Inc. Du Pont de Nemours & Co., E. I. Western Shade Cloth Company

Western Shade Cloth Company
WINDOW SHADES
Aeroshade Company
Athey Company
Columbia Mills, Inc.
Draper Shade Co., Luther O.
Du Pont de Nemours & Co., E. I.
Maxwell & Co., S. A.
Steele Mfg. Co., Oliver C.
Western Shade Cloth Company
WINDOW SHADE POLLERS WINDOW SHADE ROLLERS
Columbia Mills, Inc.
Hartahorn Company, Stewart
Western Shade Cloth Company

Western Shade Cloth Company
WINDOWS, STEEL,
Detroit Steel Products Company
WIRE GUARDS
Badger Wire & Iron Works
Cyclone Fence Co.
Logan Co. (Formerly Dow Co.)
Stewart Iron Works Co., The

ADVERTISERS' REFERENCE INDEX

	LIKE ICE
Page	
Acme Partition Company133	Gaylord Brothers
Acme Scenic Studios	Gillis & Geoghegan
Aeroshade Company147	Graybar Electric
Aeroshade Company	Gregg Publishing Gunn Furniture Co
A. P. W. Paper Co3rd Cover	Gunn Furniture Co
Alberene Stone Company148	Guth Company, Ed
Allweather Ventilator Co., Inc120	Haas Company, Pl Hamilton Mfg. Con
American Book Company145	Hamilton Mig. Col
American Crayon Company109 American Fence Construction Co. 92	Hamlin, Irving Hammett Company
American Portable House Co152	Harter School Sur
American Seating Company 17	Hartshorn Compan
American Seating Company 17 Anchor Post Iron Works 98	Heath & Co., D. C
Angle Steel Stool Company150	Heywood-Wakefield
Annin & Co147	Hill Standard Com
Arlington Seating Company 26	Hockaday, Inc Hoffmann & Billin
Armstrong Company, The152	
Asbestos Buildings Co132	Holden Patent Boo
Athey Company	Holmes Projector Houghton, Mifflin
Austral Window Company.4th Cover Badger Wire & Iron Works 98	Imperial Brass Mf
Barnhart Brothers & Spindler. 81	Indiana Limestone
Rescon Steel Furniture Co 139	Invincible Vacuum
Beacon Steel Furniture Co139 Beardslee Chandelier Mfg. Co 70	Co
Beck & Sons Co., The Wm152	Co
Berger Mfg. Company 84	Johnson Service (
Binney & Smith Company106	Kansas City Sceni
Blair Company, J. C143	Kewanee Boiler Co
Blasteel Manufacturing Co149	Kewaunee Mfg. Co
Blickman, Inc., S	Keystone View Con
Bossert & Sons, Louis	Kewanee Boiler Content of the Kewannee Mfg. Content of Keystone View Content of Vi
Bradley Wash Fountain Co130	Laidlaw Brothers
Brown Company	Landis Eng. & M
Cabot, Inc., Samuel	Lee Lash Studios.
Cannon Printing Company146	Leitz, Inc., E
Cannon Printing Company146 Carrier Air Cond. Co. of America. 120	Little, Brown & Co
Carter-Bloxonend Flooring Co 82	Logan Co Longmans, Green
Century Brass Works, Inc130 Chicago Gymnasium Equip. Co146	Longmans, Green
Chicago Gymnasium Equip. Co146	Lord & Burnham
Christiansen, C	Lynn Company, J Lyon Metallic Mfs
Circle A Products Corp 91	Maple Flooring Ma
Clarin Manufacturing Co135 Cleveland Range Company, The.134	Ass'n
Clow & Sons James B	Marietta Mfg. Co.
Clow & Sons, James B117 Colt's Patent Fire Arms Mfg. Co.104	Marietta Mfg. Co Matthews Gas Ma
Columbia Mills, Inc	Maxwell & Co., S.
Columbia School Supply Co 25	Medart Mfg. Co.,
Continental Chemical Corp146	Merriam Company
Cyclone Fence Company	Mershon & Morley
Derby & Company, Inc., P 20	Metal Forming Co Miller Keyless Loc
Detroit School Equipment Co 22	Miller Keyless Loc
Detroit Steel Products Co 69	Milwaukee Corrugs Milwaukee Dustles
DeVillas Mig. Co., The	Mitchell Manufact
DeVilbias Mfg. Co., The	Monroe Calculatin
Draper Shade Co., Luther O140	Muller, Inc., Fran
Dunham Company, C. A114	Multiplex Display
Du Pont de Nemours & Co., E. 1, (5	Multiplex Display Murdock Mfg. & S
Durabilt Steel Locker Co 97 Durand Steel Locker Co 94	Myers & Bros. Co.
Durand Steel Locker Co 94	Narragansett Mac
Duriron Co., Inc., The112 Ebinger Sanitary Mfg. Co., The	Nash Engineering
Ebinger Sanitary Mfg. Co., The	National Crayon C
	National Paper Pr
Economy Plant No. 2 (Kewaunee	National School Ed National Vulcanize
MIR. CO.)	Natural Slate Bla
Federal Steel Fixture Co150	Neighborhood Mot
Finnell System, Inc. 76 Fowler Paper Co., W.A. 24 Freeport Gas Machine Co. 134	Nelson Corp., The
Francort Cas Machine Co 134	Nelson Mfg Co
Frost Mfg. Company, The114	Nelson Mfg. Co., Never-Split Seat Newson & Comps
General Boilers Company 5	Newson & Comps
deneral Doners Company	

	Page
Gaylord Brothers	141
Gillis & Geoghegan, The	129
Greeg Publishing Company	145
Gunn Furniture Company	24
Guth Company, Edwin F	80
Guth Company, Edwin F Haas Company, Philip Hamilton Mfg. Company, The.	160
Hamilton Mig. Company, The.	199
Hamlin, Irving	. 146
Harter School Supply Co	121
Hartshorn Company, Stewart. Heath & Co., D. C	16
Heath & Co., D. C	142
Hill Standard Company	93
Hill Standard Company Hockaday, Inc Hoffmann & Billings Mfg. Co. Holden Patent Book Cover Co. Holmes Projector Company Houghton, Mifflin Company	95
Hoffmann & Billings Mfg. Co.	126
Holden Patent Book Cover Co.	111
Houghton Mifflin Company	149
Imperial Brass Mfg. Company.	126
Imperial Brass Mfg. Company. Indiana Limestone Company.	68
Invincible Vacuum Cleaner Mi	fg.
Inekson Coup A D	145
Johnson Service Company	143
Invincible Vacuum Cleaner Mi Co	152
Kewanee Boiler Company Kewaunee Mfg. Company Keystone View Company	8
Kewaunee Mfg. Company	113
K-M Supply Company	191
K-M Supply Company Kundtz Co., The Theodor Laidlaw Brothers	21
Laidlaw Brothers	142
Landis Eng. & Mig. Company	124
Lee Lash Studios Leitz, Inc., E	. 140
Little, Brown & Company	152
Longmans, Green & Company.	98
Longmans, Green & Company.	143
Lord & Burnham Company Lynn Company, James	26
Lyon Metallic Mfg. Company. Maple Flooring Manufacturers	79
Maple Flooring Manufacturers	150
Marietta Mfg. Company. Marietta Mfg. Company. Mathews Gas Machine Co Maxwell & Co., S. A Medart Mfg. Co., Fred 724 Merriam Company. G. & C.	198
Matthews Gas Machine Co	150
Maxwell & Co., S. A	80
Medart Mfg. Co., Fred72	and 89
Merriam Company, G. & C Mershon & Morley Co Metal Forming Corp Miller Keyless Lock Co., The J. Milwaukee Corrugating Compa	80
Metal Forming Corp	149
Miller Keyless Lock Co., The J.	B.150
Milwaukee Corrugating Compa Milwaukee Dustless Brush Co.	ny 88
Mitchell Manufacturing Co.	90
Monroe Calculating Machine C	o.110
Muller, Inc., Franklyn R	87
Murdock Mes & Supply Co. T.	he 126
Myers & Bros. Co., F. E	148
Narragansett Machine Co	138
Nash Engineering Company	32
National Crayon Company	119
National School Equipment Co	28
Milwaukee Dustless Brush Co. Mitchell Manufacturing Co Monroe Calculating Machine Co Multiplex Display Fixture Co. Multer, Inc., Franklyn R Multiplex Display Fixture Co. Murdock Mfg. & Supply Co., T. Myers & Bros. Co., F. E Narragansett Machine Co Narnagansett Machine Co Nash Engineering Company National Crayon Company National Paper Products Co National Paper Products Co National School Equipment Co. National Vulcanized Fibre Co. Natural Slate Blackboard Co. Neighborhood Motion Picture	24
Natural Slate Blackboard Co	1
Neighborhood Motion Picture Nelson Corp., The Herman	114
Nelson Mfg Co N O 118 o	nd 149
Nelson Mfg. Co., N. O. 118 a Never-Split Seat Company	180
Newson & Company	148

INDEX
Page
New York Blue Print Paper Co. 18
N. Y. Silicate Book Slate Co152
Nustrom & Co A J 107
Page Fence & Wire Products
Ass'n 90
Palmer Company, A. N153
Palmer Company, The129
Penhody School Furniture Co 19
Peerless Unit Ventilation Co., Inc. 71
Peterson & Co., Leonard108
Pick & Co., Albert
Premier Engraving Company 30
New York Blue Print Paper Co. 18 N. Y. Silicate Book Slate Co152 Norton Door Closer Co99 Nystrom & Co., A. J
Co
Rand, McNally & Company 141
Readsboro Chair Company 20
Remington Typewriter Company.110
Rinehimer Bros. Mfg. Co 18
Rundle-Spence Mfg. Company116
Rand, McNaily & Company. 191 Readsboro Chair Company. 20 Remington Typewriter Company.110 Rinehimer Bros. Mfg. Co. 18 Royal Metal Mfg. Company. 150 Rundle-Spence Mfg. Co. 116 Russell & Sons Co., Albert. 152
Sam Froducts Company
Sanymetal Products Company 10 Sargent & Company 12
Show Welker 28
Sheldon & Company, E. H 22
Sonneborn Sons, L 10
Spencer Lens Company110
Spencer Turbine Company 6
Sanymetai Products Company. 10 Sanymetai Products Company. 12 Shaw-Walker 28 Sheldon & Company, E. H. 22 Sonneborn Sons, I. 10 Spencer Lens Company. 110 Spencer Turbine Company. 6 Standard Blackboard Co. 150 Standard Blackboard Co. 150 Standard Electric Time Co., The 34 Stedenan Products Company. 77 Steel Furniture Company. 31 Steffens-Amberg Company. 128 Structural Slate Company. 136 Super Service Co., The 133 Tannewitz Works, The 148 Taylor Company, Halsey W. 127 Tiffin Scenic Studios. 151 Trans-Lux Daylight Picture Sereen Corp. 137 Triple Metals Corp. 148 Truscon Steel Company. 8 and 82 Twin City Scenic Company. 147
Stedman Products Company 77
Steel Furniture Company 31
Steffens-Amberg Company128
Structural Slate Company136
Tennewitz Works The 148
Taylor Company, Halsey W127
Tiffin Scenic Studios
Trans-Lux Daylight Picture
Triple Metals Corp. 148
Truscon Steel Company8 and 82
Twin City Scenic Company 147
Underwood Typewriter Company.101
Union School Furnishing Co144
Truscon Steel Company8 and 82 Twin City Seenic Company147 Underwood Typewriter Company.101 Union School Furnishing Co144 U. S. Gutta Percha Paint Co123 U. S. Inkwell Company150 Universal Scenic Studio, Inc144 Universal Window Company18 Van Range Company, John105 Victor Talking Machine Co103 Vogel Company, Jos. A2nd Cover Vonnegut Hardware Company
Universal Scenic Studio, Inc 144
Universal Window Company 18
Van Range Company, John105
Victor Talking Machine Co 103
Vogel Company, Jos. A2nd Cover
Vonegut Hardware Company
Vortex Mfg. Company 85
Walragen Rock Cover Co A T 141
Wayne Iron Works
Wearproof Mat Company 86
Weber Costello Company 29
Wayne Iron Works
Western Shade Cloth Company. 133
Westinghouse Elec. & Mfg. Co., 74
Williams Pivot Sash Co., The 75
Yawman & Erbe Mfg. Company 28
Young Pump Company115
avenue a mile company



Located

Guy-"Do you know Lincoln's Gettysburg address?"

Jane—"I thought he lived at the White

Careful

"Ah can't come to wuk dis mawnin', suh," a colored janitor phoned to the principal. "One ob de chillun's got de smallpox and us is all quarenteed in."

"That's too bad, Mose," was the sympathetic reply. "Are you being careful to prevent a spread of the disease?"

"Yassuh," was the reply. "us is all decided."

"Yassuh," was the reply, "us is all drinkin' out'n one ob dem sanitary cups."

Right!

Teacher: Use the word coral in a sentence. Teacher: Use the word coral in a sentence. Pupil: Me and Johnny had a coral and Johnny hit me.

His Sentence Teacher: "Dick, give me a sentence using 'profanity.'"
Dick: "Dash it!"
Of No Interest

The teacher was giving a lesson on the creation. John interrupted with the remark: "My father says we are descended from apes."

Teacher: "Your private family matters have no interest for the class."

The Horse

The schoolboy, asked to write a composition on "the horse," will find valuable information in the mammoth Oxford Dictionary, now nearing completion after fifty years of preparation. The work devotes five pages to old Dobbin and his tribe, concluding that he is a "solid-footed perissodactyl quadruped." This phrase alone ought to put any boy at the head of his class.

Fractures Heal Fast in California

While working on the athletic ladder at the high school yesterday noon, Harry Smiley, a high school student, fell and had his right arm broken in two places. The boy was treated by Drs. Phillips and Cowden and will be out of athletics for a few days as a result of the fall.—Santa Cruz (Calif.) Sentinel. The Horse

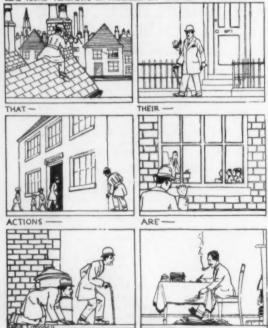
Satisfied

"Don't you wish you had a college educa-

tion?"
"Never!" replied Cactus Joe. "Fiction writers come from afar to study me. Without my cowboy dialect, I'd lose half my charm."—Washing-

Owing It All
Hopeless Pupil: When I become a great
musician, I will owe it all to you, professor.
Professor: No, I am sorry, but my fees are

payable in advance.



TEACHERS ON APPROVAL



"Teacher: "What do you know about Czecho-Slovakia?" Boy: "It's hard to say."

Good Stock

The doctor was examining school children.
One youngster was under weight.
"You don't drink milk?"
"Nore"

"Nope."

"Live on a farm and don't drink milk at all?"
"Nope, We ain't got hardly enough skim milk for the hogs."

milk for the hogs."

Opportunity Knocks But Once
"Teacher," sobbed the school's bully, "I fell
down the basement stairs just now, an' before I
could get up Teddy Smith slapped me."
"Did you do that, Theodore?" the teacher
sternly demanded of a diminutive scholar.
"Yes, ma'am," was the defiant reply. "'At
was the chance of a lifetime!"

of a lifetime.

The Drawback

teacher, "can I depend on father and "Charles," said his teacher, "can I depend on you to take this note home to your father and bring me an answer back?"

"Yes'm," was the reply, "if mom don't catch me handing it to him."

Teacher: Mildred, what great change occurred during the World War?

Mildred: Mamma got her hair bobbed.

A Problem in Evolution

The little maid of all work in the professor's

The little maid of all work in the professor's home was accustomed to listen to the conversation of her employer and his wife, and during the recent Tennessee trial heard a good deal about evolution. One day she rather nonplussed the professor by asking: "Well, if men were once monkeys, who was it that first noticed that he wasn't a monkey anymore?"

A Weapon, Not a Refuge

"Such an interesting article on 'Clubs for Teachers' in the paper this evening," said Mrs. Jones to her husband.

"Gee," said Johnny. "Ain't a switch bad enough?"

The Copper

enough?"

The Copper

The class had been told to write essays on "Oliver Twist," and one little boy had written:
"In the kitchen stood the statue of a police-

man."
"I don't understand that," said the teacher.

"Surely it's wrong?"

"Oh no," replied the child, "the book says a stone copper, but I thought that was a more polite way of putting it."

Too Much
The teacher had been giving his students a little homily on the fact that "Nothing pays like perseverance."

Just before the little and the little statement of the l

perseverance."

Just before the lesson was over he thought he would ask a few questions to see if his lecture had gone down.

"What is it," he asked, "that carries a man along rough roads and smooth roads, up hills and down hills, through jungles and swamps and raging torrents, and helps him to stand up against all misfortunes?"

"Please, teacher," said Jimmie earnestly, "there is no such car."

He Knew It

"Now, William," said his teacher, testing her class on proverbs, "you ought to be able to finish this one—it's very easy: "Cleanliness is next to'—what?"

"Impossible!" exclaimed little Willie.

During the World Series

Teacher: Jimmie, can you tell me what the and two make?"

eacher: Jimmie, can you tell me what three two make? mmie: A tight corner for the pitcher,

Jimmie: Life.

RECENT TRADE PUBLICATIONS

Kewanee Steel Boilers. The Kewanee Boiler Company, of Kewanee, Ill., has issued its new Catalog No. 81, describing and illustrating the Kewanee firebox boilers, embracing such types as the brick-set down-draft and up-draft, the portable down-draft and up-draft, the down-draft boiler and Type K for oil-burning, the portable down-draft Type K smokeless, and the portable down-draft and up-draft Type K firebox boilers. box boilers.

box boilers.

The Kewanee steel boilers are built of the best steel plates firmly riveted together and embody the best design and construction known to modern engineering and research. Handhole and manhole plates are provided for cleaning and inspection. Every condition and advantage for the safe and economical operation of and for the care of a high-grade steam generator is exemplified in the Kewanee steel-riveted firebox hoiler. firebox boiler.

The present pamphlet contains specifications and sectional drawings of boilers for the benefit of school architects and engineers.

The Kewanee Company also issues a small booklet describing and illustrating the Kewanee radiator of the slim type. This radiator is made in different sections and heights and has a five-column heating surface.

Information concerning the Kewanee boilers

Information concerning the Kewanee boilers or radiators may be obtained by writing to the Kewanee Boiler Co., at Kewanee, Ill.

Heatovent Unit Heating. The Buckeye Blower Co., of Columbus, O., has issued its new bulletin No. 123, describing and illustrating the Buckeye Heatovent for school systems. The Heatovent system is simple, economical, and sanitary, and all parts are readily accessible for cleaning or repairs. cleaning or repairs.

The Heatovent system eliminates the diffu-The Heatovent system eliminates the diffusion problem from consideration. Each room has its own individual source of air supply of proper capacity, operating independently of all other rooms. Fresh air is drawn through an opening in an outside wall at the floor line and is forced through a copper tube radiator, which heats it to the desired temperature before discharging it into the room through a grille in the top of the cabinet. Economy in operation is obtained through the elimination of ventilation in unoccupied rooms, thereby saving both electrical power and steam. trical power and steam.

A Heatovent radiator built for working pres-A Heatovent radiator built for working pressures up to fifty pounds per square inch is provided. A double mixing damper directs all or any part of the air through the radiator at will, thus controlling the temperature of the air independently of the steam valve.

The pamphlet contains tables of engineering data and outline specifications for the low type Heatovent which will be helpful to school architects and engineers in the installation of school heating and ventilating systems.

heating and ventilating systems.

Durabilt Issues New Locker Catalog. The Durabilt Steel Locker Company of Aurora, Illinois, has just issued a new catalog of school lockers. The book is more than an ordinary lockers. The book is more than an ordinary catalog in that it contains a series of special articles by Mr. D. V. Trapp, discussing the advantages of lockers in school buildings, methods of installation, the selection of lockers, methods of specifying and buying lockers.

The bulk of the book is devoted to accurate drawings of steel locker details for architects and their draftsmen. These details have been developed by the research department of the Durabilt Steel Locker Company and are intended to cover every type of modern locker installation now accepted for school use.

School authorities will be interested to see the wide variety of installations, of the corri-dor type, alcove locker-room type, etc., which are included in this group of drawings.

A special section shows typical layouts of locker rooms, alcoves, etc., for special school uses, including gymnasiums, shops, and general school service.

School authorities who are interested in the debatable problems connected with the selection and purchase of lockers should have this catalog at their command.

LIBRARY FURNITURE THAT "ENDURES"



The Library of the Warren B. Harding High School, Bridgeport, Conn., is equipped by Library Burcau

Beauty and Sturdiness Combined

BEAUTIFUL, inviting and comfortable school libraries, such as the one illustrated above, induce more reading than those without the cultural library atmosphere.

The very appearance of libraries so equipped — quite different from class-rooms or study halls—has a direct influence upon the pupils in eliminating the need of school room discipline. They provide an atmosphere of dignity, refinement, comfort and inspiration that produces a "library morale" otherwise difficult to obtain.

Then too, when it is a durable Library Bureau installation, you can be assured that it will hold a pleasing appearance under "wear and tear" and the effects of the elements for group after group of children throughout the years to come

Library Bureau, alone is able to point to school library equipment which it installed a generation ago—and which today, after over twenty-five years of service is still in prime condition, and giving splendid service.

Library Bureau school library furniture is designed and made to withstand the strenuous usage of growing boys and girls.

By keeping constantly abreast of all library progress, Library Bureau holds the high regard of the library profession. Its experience with the problems of library equipment and library methods is cheerfully shared with all who are in library work. Your questions will have prompt attention. Address them to the Library Division, Rand Kardex Bureau, 118 Federal Street, Boston, Mass., 451 Broadway, New York City, or 214 West Monroe Street, Chicago, Ill. Pacific Coast Distributors, McKee & Wentworth, 759 S. Los Angeles Street, Los Angeles, Calif., 39 Second Street, San Francisco, Calif., or 447 Dexter Horton Building, Third Avenue and Cherry Street, Seattle, Washington.

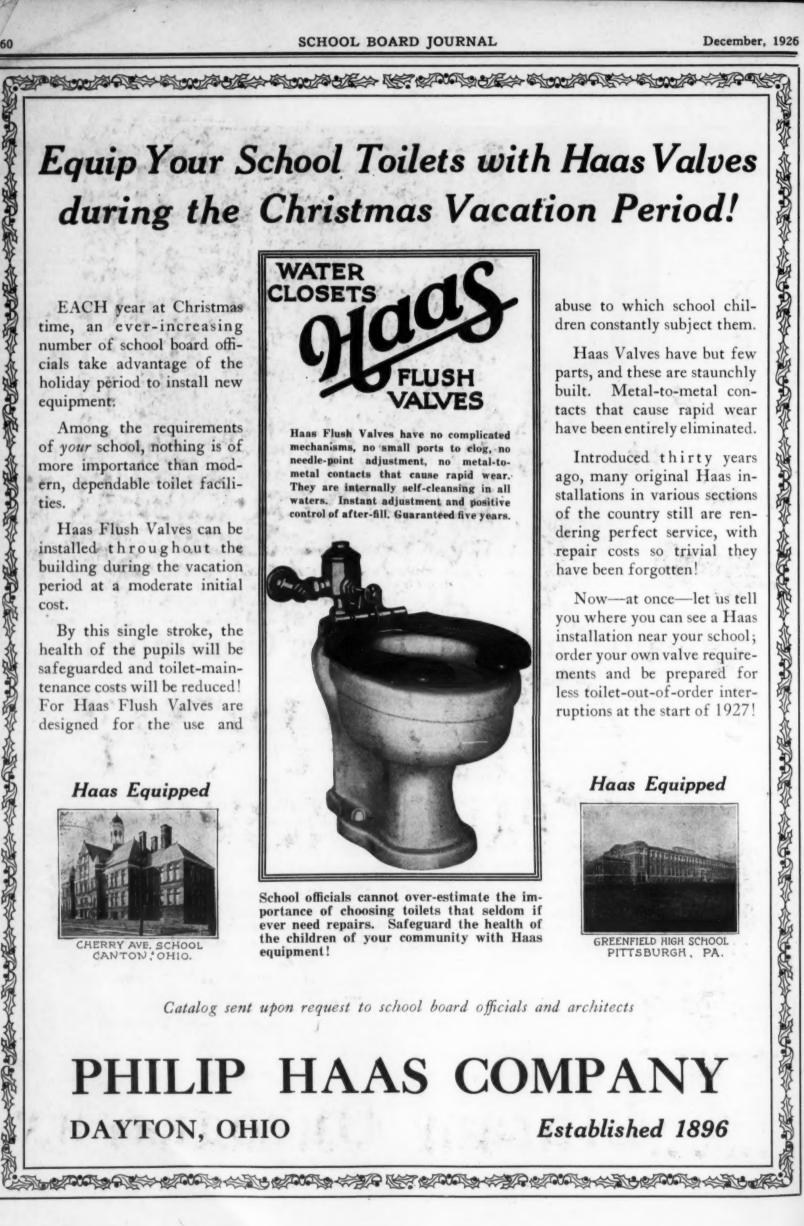
Library Bureau

Division of: RAND KARDEX BUREAU

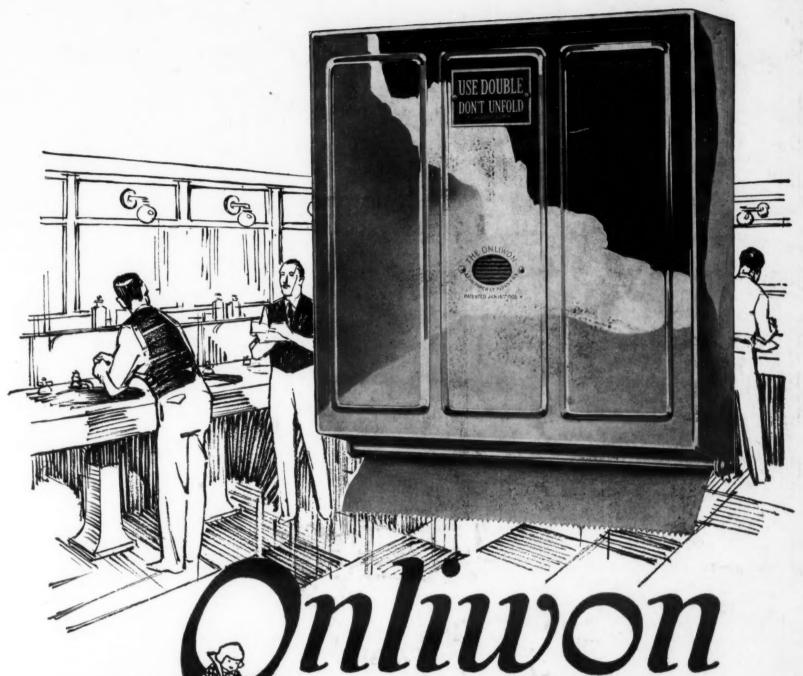
SAFE-CABINET



のかからののかればもののかんがはらのかかんはちののかんがはものがかんがいるのか







nnuvon PAPER TOWELS

Make Your Washroom Pay Profits

A comparative test invariably proves that Onliwon paper towels show a substantial saving over other systems because the towels are served one at a time-because wet hands don't tear through the double folded paper and because the large size and highly absorbent quality of the paper dries quickly and thoroughly.

The elimination of waste in the washroom pays dividends in money saved.

Free descriptive literature and samples on request.

A.P.W. PAPER CO. ALBANY N.Y.

Prominent Architects Who Have Used Austral Windows Schools of Wm. B. Ittner.



Goliad School, Galveston, Tex.





Houston School, Galveston, Tex.



Ventilation Without

Draft





East High School, Erie, Pa.



Junior-Senior High School, Waseca, Minn.



Crockett School, Galveston, Tex.



Physical Education Bldg., Port Arthur, Tex.

Where it is possible to ventilate the classroom entirely through AUSTRAL WINDOWS-and architects and school officials are not bound by the laws of certain states that require mechanical systems of ventilation—a 20% to 25% saving is brought about in the cost of every school and ideal results are obtained.

SEND FOR THE AUSTRAL BOOK ON SCHOOL VENTILATIOIN

PARKAVE AUSTRALWINDOW O. PEWYORK

